American Aviation

The Air Industry's Pioneer Independent Magazine

Oct. 15, 1949

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Answer To A Letter

Mr. Ray Snyder, President
Snyder Aircraft Corporation
5315 West 63rd Street
Chicago 38, Illinois

Dear Ray:

You really threw out a $64 question in your letter of September 23. You want to know how the Aviation Distributors and Manufacturers Association which holds its annual meeting in November 9-11 at French Lick, Indiana, can assist constructively in solving the current problems of the personal airplane industry.

by W. W. P.

We can settle one thing right off, Ray. I don't have *the* answer to what's wrong with personal aviation and I don't know anybody who does. The best I can do is to submit some random thoughts for your consideration.

It's no mystery why you and ADMA are concerned about the state of personal aviation. As you point out, aircraft registration showed a decline of 5,000 in the latest report. New airplane production will do well to reach 5,000 this year and that's a mighty small figure for a nation of 150,000,000 people. You and I both know what spot checks out in the field indicate—the local operator is having a tough time. The industry seems to be slipping backward at an alarming rate.

ADMA is one of the key aviation organizations that can contribute something constructive toward a solution. Out of your discussions at French Lick will come some helpful ideas. It's everyone's problem and everyone ought to chip in with the brains.

As I say, I don't have *the* answer or even a good part of one, but let's look at the fundamentals of the problem for a clue to a solution.

The federal government and most of the states are irretrievably linked with the field of personal flying. I don't like government bureaucracy any more than you, but there's no use talking about civil aviation without recognizing the vital role played by government in everything pertaining to the airplane. The government is in it—and will stay in it. It would be a waste of time to talk about civil aviation without government.

I think you will agree that civil aviation is an important adjunct to national security. It's [illegible]

(Turn to Page 4)

Proposes Three-Way Feeder Merger

Hal S. Darr, president of Monarch Air Lines, who has asked CAB to approve merger of Monarch with Arizona Airways and Challenger Airlines. In aviation 32 years, Darr has been active in airports and flight schools and in 1943 purchased Scott Radio and Television Company of Chicago which he now heads along with his airline and other interests. Darr's goal is to reduce the government burden of mail pay by merging small feeders into efficient and economical units. (See story page 27).

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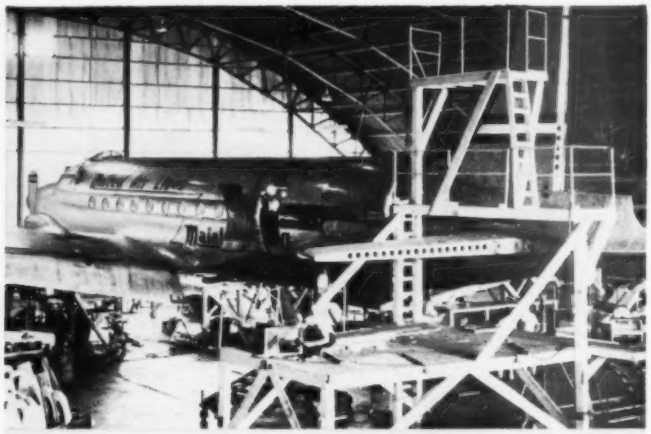

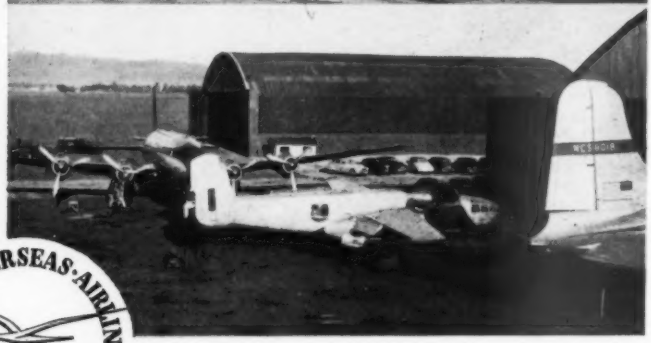

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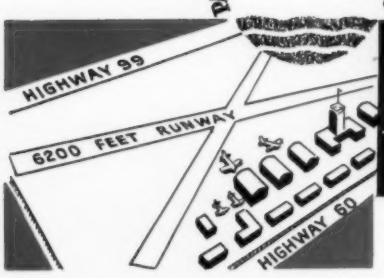

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EDITORIAL

(CONTINUED FROM PAGE 1)

to the nation as a whole that we have lots of civil flying and lots of airports. It's vital not only for national security but for commerce and recreation.

In other words, civil aviation is a *national* problem and it is inextricably bound up with government.

If you go along with me this far, the next inevitable question is: What is the U. S. civil aviation policy? The government has a vast stake and a vast investment in civil aviation, therefore there must surely be a policy.

And this is where we reach the point of no return. Maybe there is a national policy but if so, where is it? There is an abundance of meaningless general phrases in policy reports and speeches by the federal brass and all that sort of thing, but that isn't what we have looked for. What we have sought in vain to find is an activated, coordinated U. S. civil aviation policy somewhere besides on library shelves.

There are many government agencies concerned with one or more phases of civil aviation, yet there doesn't seem to be a semblance of coordination or of a uniform policy.

The most important agency is the Civil Aeronautics Administration. One of its responsibilities is the promotion of civil aviation, yet the emphasis has always been on regulation rather than promotion. The CAA seems to us to resemble a constantly enlarging symphony orchestra tuning up for a major concert with the audience constantly shrinking. For each new instrument added to the orchestra a half dozen patrons leave the auditorium. The players threaten to out-number the audience.

Then there is the Veterans Administration. Perhaps from VA's point of view, it should curtail GI flight training to the barest minimum. But from a national security point of view, such a curtailing doesn't make sense. And VA can take the gold medal for all time as being the most outstanding double-crossing agency in government history. Despite the directive of Congress and despite the high-sounding policy statements from VA in Washington, it has crippled, slashed, blocked and in every other way stopped any sizeable GI flight training program.

Down the avenue is the Post Office Department which developed the air mail service in the early years. Now it is beginning to sponsor air star routes which could stimulate a great deal of lightplane activity. But the P.O. is working in its own interests (the postal service) for which it can hardly be blamed and so its program is not coordinated with anybody else or tied in with a national program for keeping local airports alive.

Also we have a Civil Aeronautics Board which was created to regulate and promote a sound air transportation system. Recently the CAB began working out some single-engined feeder airline routes which will help small airports and the personal airplane industry. For this CAB can take a deep bow. Yet the CAB is tackling this program in the interest of public convenience and necessity (as it should) and without any particular regard for any other civil aviation program. The CAB has many problems besides worrying about the personal airplane industry but, on the other hand, single-engined feeder routes offer an excellent method of aiding the field of civil aviation.

On the military front we have the Air Force and Naval Air going about their business (and each other's business) with negligible coordination with anyone else or each other. Certainly the military must keep their eyes on national security first and foremost, but there are times when we think the military might also consider that they are part of the whole national community. They could benefit by coordinating with civil aviation and civil aviation would benefit as well. The Civil Air Patrol has been somewhat of a step-child when it, along with all other civil aviation potentials, comprises a very great benefit for military purposes. Since the war the military has tended to live in a world of its own. We think this could be modified to everyone's benefit.

Now Ray, these are only a few of the agencies concerned with aviation. The Weather Bureau, the National Advisory Committee for Aeronautics, the Commerce Department, the Department of Agriculture, the Interior Department, and others, all have a stake one way or another in civil aviation. Each could help out in a coordinated civil aviation policy.

Of course somebody will point out that there is an Air Coordinating Committee already set up in Washington to coordinate. But the ACC is simply an informal body, composed solely of government agencies, and is on the verge of being wiped out. It has no official standing and a single government agency can veto an action. It was never intended to be a forceful authoritative agency to determine and carry out a civil air policy.

So here we have one of the fundamentals of the problem of the personal airplane industry. The government is linked to civil aviation from top to bottom. It has a billion dollars worth of talent for a handful of patrons. Each agency is going its own sweet way without regard to the direction followed by another agency. Together these agencies represent a great potential in purchasing power and an activated program. Separately they mean frustration and confusion.

Just about every country in the world has a coordinated civil aviation policy but in all too many instances civil aviation has been placed under the thumb of the military. We don't want this type of uniform policy in the U. S. in peacetime. But somewhere in the U. S. government there should be a major agency devoting its sole attention to civil aviation in such a way that when an agency such as VA double-crosses on flight training, a correction can be effected immediately in the national interest.

Of course it isn't all a governmental problem by any means. The National Air Council has royally flubbed its chance to provide leadership and coordination of interests of all aviation groups. The National Aeronautics Association has been floundering in a mass of confusion. The aircraft manufacturers have often stymied moves which, in the end, might well have improved their relative positions. And too many aviation organizations have looked

(*Turn to Page* 6)

No 11

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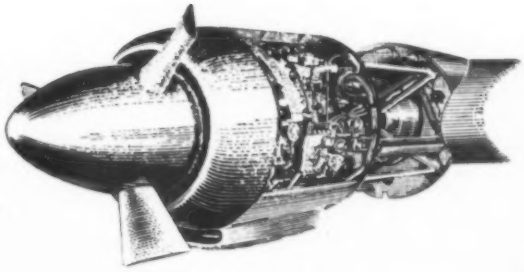

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EDITORIAL

(Continued from Page 4)

too much to their own selfish interests instead of pitching in to help the whole picture.

These are just random thoughts, Ray. ADMA has a real opportunity to thrash out ideas and come up with some solid recommendations. We've got to get more paying customers in the auditorium or we ought to cut down the size of the orchestra. There are lots of good sound brains in both government and private enterprise. Maybe the first step is to bring those brains together for the benefit of civil aviation. The military and the manufacturers and the airlines take care of themselves, maybe it's time for someone to do some thinking for the little guy who, after all, constitutes the real backbone of civil aviation.

All the best,
WAYNE W. PARRISH

News in Brief

Airline profits continued to mount in sizeable proportions during the third quarter, with one survey indicating that the four transcontinentals netted close to $10 millions after taxes. American Airlines had an estimated net of about $2 millions after taxes, giving it a 9-month profit of about $5.5 millions, against a net loss of nearly $4 millions in same period last year. United Air Lines had more than a $2 million profit after taxes in the third quarter, while TWA, which still had a large tax credit, had earnings for the quarter estimated at over $4 millions.

The National Defense Establishment has until November 1 to submit its policy report on a government-support program for construction of jet-type transport aircraft to the Senate Interstate and Foreign Commerce Committee. The report is expected to rekindle an active interest in legislative circles for several prototype aircraft construction bills now in Congress.

Traffic rights of the three U. S. trans-Atlantic airlines at Gander, Newfoundland, were extended at the last minute by the Canadian government from September 30 to October 31. The Canadian Air Transport Board won't grant permanent Gander licenses until CAB acts on Trans-Canada Air Lines' application for Montreal-New York, which Colonial Airlines has tied up in court.

Development of a special plane for agricultural purposes received a boost on October 4 when the Senate Agricultural Committee approved Senate Resolution 172 introduced by Sen. Elmer Thomas (D., Okla.). The resolution urges initiation of the project and sets forth legal authority for use of Department of Agriculture and CAA funds to finance construction of the aircraft. Development will be undertaken by the Personal Aircraft Research Center at Texas A & M College, College Station, Tex.

The Military Air Transport Service wants to cut down the number of plane types it uses from the present 20 models to a single model in each category with standardized basic characteristics, according to Maj. Gen. Lawrence S. Kuter, MATS commander. Kuter said that while for the present MATS must operate the assortment of transports bequeathed it by wartime design and production, it is an undesirable situation because of the "inflexibility, inefficiency and extra expense which are unavoidable."

Central Airlines has ordered three additional Beechcraft Bonanzas which will raise its feederline fleet to 11 single-engined aircraft.

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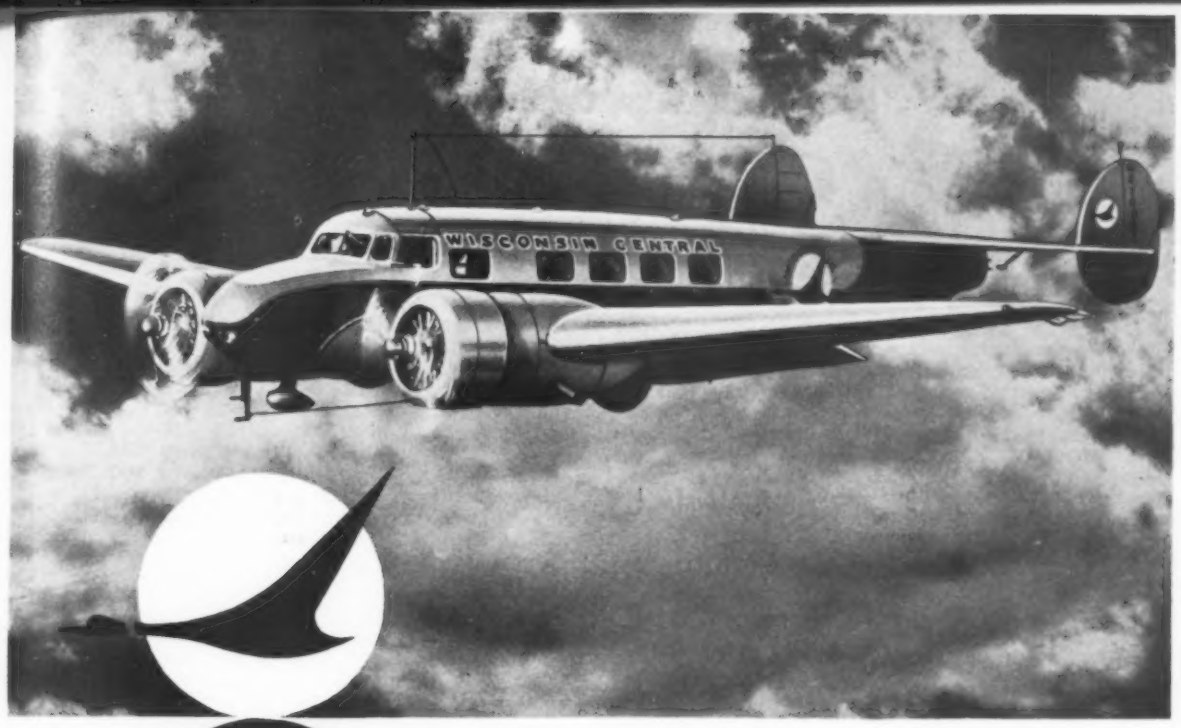

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An Overdose of Economy

(The following commentary on the bitter unification controversy was written by James J. Haggerty, Jr., military editor of AMERICAN AVIATION.*)*

THE people of the United States owe a sincere "Well done" to three courageous naval officers for bringing to the public view, and to the attention of Congress, the fact that a near-military dictatorship exists in the Department of Defense and that arbitrary, snap decisions having serious effect on the ability of this country to defend itself are being made by Secretary of Defense Louis Arthur Johnson without proper consideration of all the factors involved and without hearing the advice of military men far more capable of making such decisions than he is.

These three officers are Capt. John G. Crommelin, whose initial blast at unification focused public attention on the matter; Vice Adm. Gerald F. Bogan, commander of the First Task Fleet in the Pacific, whose letter to Navy Secretary Francis P. Matthews, made public against Matthews' wish, in which Bogan warned that the administration of the Unification Law was impairing the morale and efficiency of the Navy, brought about a Congressional investigation of the subject; and Adm. Arthur W. Radford, commander of the Pacific Fleet, whose brilliant presentation before the House Armed Services Committee of his views on unification brought about a proposal by that body that the law be amended to curb the powers of the Secretary of Defense and give Congress a tighter grip on the Defense purse-strings.

Radford, in the most outspoken testimony by a military man since Billy Mitchell, said that there is a wall between the Secretary of Defense and officers of the Navy; that the Navy's opinions on vital matters are either not asked or are not given sufficient weight.

WHO, then, is this man Johnson who can decide in a short period of time what should be the strength and composition of the Navy and who can determine, without hearing the views of the opposition, that the defense of this country should be based upon an extremely questionable theory of intercontinental atomic bombing? Is he a military genius of vast experience? No—he is a West Virginia lawyer whose experience consists of a year overseas as a Captain of Infantry in World War I.

It is to be feared that Johnson's defense policies, namely the concentration on the Air Force's long-range bombers to the detriment of the other two services, are the result more of a desire to please the crowd than of sound and serious consideration of whether these policies are in the best interests of national defense. First, he offers the crowd a popular theory of warfare: we will fight our war from our own shores, sending a minimum of our boys overseas, and it will be a short, cheap war; and second, he is developing for Louis Johnson the reputation of The Great Economist, for whatever political value such a reputation might obtain.

Johnson pledged, before a Congressional committee, that the granting of additional powers he sought would permit him to make defense savings running into the billions over a period of years. He would not, at the time, tell the committee just how he expected to accomplish this vast economy. It it obvious now that he plans to achieve it by reducing the surface Navy to a water transportation corps and by scuttling naval aviation.

After the Navy had submitted its budget requirements for the coming fiscal year, Johnson's office gave them a rough going over and finally approved appropriations that would leave the Navy, particularly the air arm, little more than a cadre force. The monies he allocated for naval aviation, for instance, will require that *every* airframe and engine research and development project scheduled by the Navy for the coming year be canceled; that only 843 naval planes (380 less than this year) be built; the deactivation of three attack carriers, nine naval air stations and four anti-submarine patrol squadrons; a sixteen per cent reduction in aircraft overhauls; and discontinuance of Naval Reserve air groups on fleet carriers.

THAT was bad enough. But in recent weeks it has been learned that Johnson, apparently regretting letting even such a scant budget as that get through, is now making plans for trimming it by an additional $300,000,000 even before Congress has appropriated the funds. He is, in effect, taking away from Congress the power to regulate defense expenditures. All the testimony that the Congressional committees evaluated carefully before approving these expenditures is thrown out the window. Johnson, The Great Economist, who apparently heard no testimony whatever, unless it came from his Air Force advisors, who might have reaffirmed their beliefs in intercontinental bombing and reassured the Secretary that naval aviation is a traditional luxury, has overruled the Congress.

Proof of the fact that he heard no Navy argument on this matter is the testimony of the Chief of Naval Operations, Adm. Louis E. Denfeld, before the House Armed Services Committee last week. Asked specifically what he know of the proposed $300,000,000 additional cut, Denfeld said he knew of no such plans.

If someone were to ask Johnson if he had consulted the Navy on plans for this cut, he would probably reply that he had. He would mean by that that he had taken it up with the man who holds the title Secretary of the Navy, Francis P. Matthews, who squirmingly admitted to the committee that there had been some such discussion. But Matthews, a Nebraska lawyer whose military experience is highlighted by his once having been a director of the Omaha Boy Scouts, is Secretary of the Navy in name only. His title might better be Assistant Secretary of Defense for Naval Relations. He has aligned himself, not with, but against the Navy, in its battle for survival.

Congress is now seeking to determine the causes of the Navy's present low morale. One of these causes is Matthews, himself. His subordinates feel that he has "sold out" the Navy for whatever political gain he might achieve by joining forces with Johnson. He has stoutly maintained, in the face of overwhelming evidence to the contrary, that Navy morale is good, probably because it has been the policy of the Department of Defense never to admit failure in their fumbling, club-wielding attempts to unify the services. He has consistently tried to stifle evidences of discontent as witnessed by his treatment of Capt. Crommelin, his slapping a "confidential" stamp on Adm. Bogan's letter because it "embarrassed" the Navy, and his determined effort before the House Armed Services Committee to prevent Adm. Radford's statement being read in public, because it might "give aid and comfort to the enemy."

The Department of Defense has succeeded in badly

(*Turn to Page* 33)

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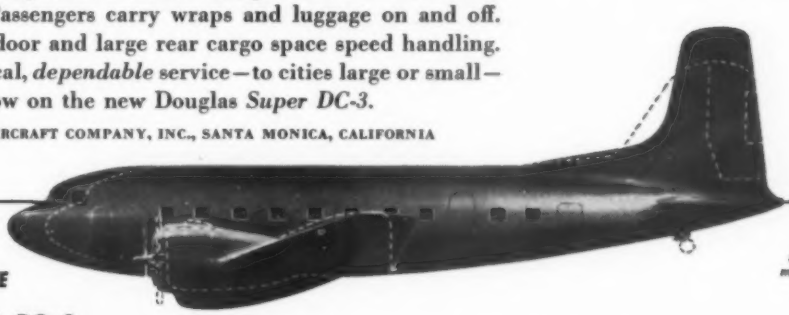

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American Aviation

Volume 13
Number 10

Avro Jetliner Makes Bid For Air Transport Market

By WILLIAM D. PERREAULT

MALTON, Ontario—On October 4 A. V. Roe of Canada, Ltd. held the first "official" flight of the Avro C-102 Jetliner, the company's first commercial venture in aircraft design and construction. With some 500 aviation officials in attendance, Chief Pilot J. H. Orrell put the 427-mph, 50-passenger liner through its paces in a 15-minute session which brought total flight time on this first of two prototypes to about 10 hours.

To the interested groups, company officials commented that the Jetliner, the first jet transport to be built on this continent, would probably sell for $700,000 but there were many contingencies which might alter this. Production capacity of Avro's plant is about three ships per month but this would be increased if any appreciable number of ships were ordered.

A. V. Roe officials have commented that prototype development costs are requirement for a similar development about one half the $22,500,000 estimated project in the U. S.

No Priority. According to Vice-President and General Manager Walter Deisher, "four persons" were interested in the obtaining the first two ships but no promises had been made to date. They would be delivered "first come, first served." Expectation is running high that Eastern Air Lines might be the first purchaser. On hand for the flight display was Charles Froesch, Eastern's chief engineer, who has previously expressed interest (AMERICAN AVIATION, March 15) in the promising transport.

It's too early to predict what market will exist for the Jetliner but the estimated and proven flight characteristics, simplicity of design and its inherent advantages as a jet transport have captured the imaginations of all those who have seen the ship.

500 Miles Plus. The 50-passenger C-102 is designed to take off at 60,000 lbs. gross weight on a 4-5,000 ft. runway, climb to 30-35,000 ft. altitude and cruise at 427 mph. Fuel consumption per lb. thrust per hr. ranges between 1 and 1.2 lbs. so that the 2,300 gallon fuel supply provides a normal operating range including all allowances of 500 miles. Still air range without allowances is about 1,400 miles. Maximum range with full payload will be about 600 miles; maximum landing weight is 52,500 lbs. Empty weight is still unannounced.

The C-102's pressurization is designed for a cabin differential pressure of 8.3 lbs. providing sea level cabin conditions up to 21,500 ft. altitude and a cabin pressure equal to 4,000 ft. altitude at 30,000 ft. This system will permit rapid let-downs and insure maximum economy of operations by allowing the pilot to maintain optimum altitude levels for the longest possible period during each flight. At normal landing weight, between 40-50,000 lbs., the stall speed ranges from 80-90 mph. All flight control characteristics are closely allied to present day transport operations.

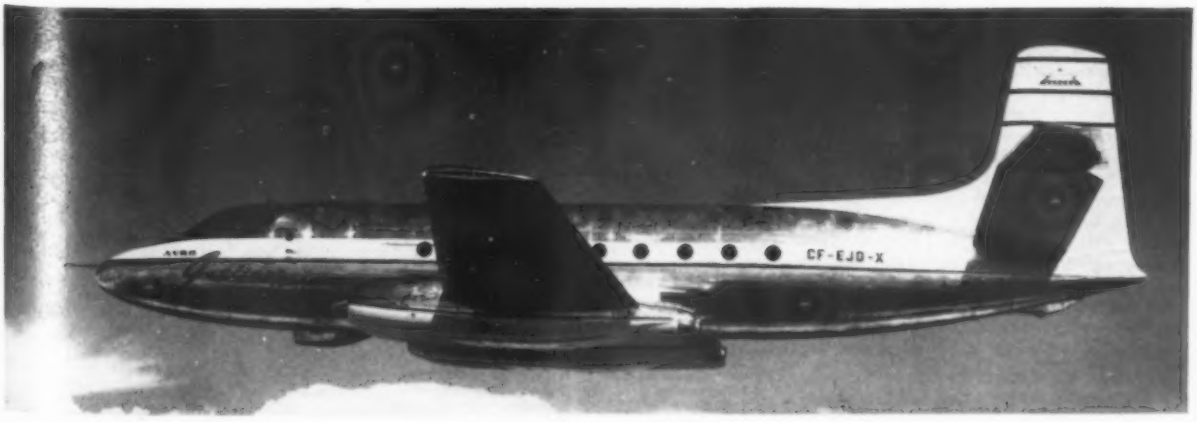
As a jetliner, the focus of attention is on the engines, mounted in underslung positions close in to the fuselage. Powerplants are Rolls-Royce Derwent 5's rated at 3,600 lbs. static S. L. thrust at 14,700 rpm. With the engine extending well forward of the wing and a 14-ft. tail pipe to carry exhaust gasses aft of the wing, the powerplant installation is quite spectacular. The bullet-shaped spinner which fits over the front end is well inside the cowling proper leaving large blunt openings for maximum ram air affect.

15 Minutes. Since this is the first commercial airplane installation for the Derwents, overhaul times are still speculative but Rolls-Royce expects to have at least 400-hr. overhaul periods and possibly 500 by the time the airplanes enter service late in 1951. Simplicity is the only word for the engine installation.

A complete engine change can be accomplished in about 15 minutes. The simple cowling installation permits ready access to the low slung engines without use of ladders of any type. Removal is accomplished by breaking two cannon plug connections, two starter leads, a fuel line, 12 bolts (3/16") holding the tail pipe, throttle control, 3 mounting bolts and the accessory drive. All four engines are readily interchangable.

This engine simplicity also takes over the cockpit. Missing are the propeller pitch controls, synchronizer switches, carburetor heat controls, feathering buttons, oil temperature controls, etc. The only engine instruments are the engine rpm, jet pipe temperature gages, and oil pressure. The latter may not be used in the final installation.

Interesting Possibilities. To the pilot and passengers, the engines spell noise- and vibration-free flight, as in all jet installations. Gone are the familiar reverberations along the fuselage length and the staccaco noise pattern. Although the C-102's flight history is too short for effective analyzing of this feature, in Britain the jet transport pilots have flown eight hours as a normal day doing all-out testing and



felt up to making the long and complicated reports before quitting for the day.

In commercial airlines today there are still many skeptics that doubt that jet transports will have any immediate (4-5 years) impact on commercial air travel. Actually, it is entirely possible that transports like the C-102 may do for air transportation what the sound films did for the motion picture industry.

Fuel System. Closely allied with the engine operation, and providing a major contribution to cockpit simplicity and reduction in pilot operating loads, is the fuel system arrangement. Four integral fuel tanks mounted between the spars outboard of the outboard engines feed fuel to the engines. Normally the inboard fuel tanks (1320 imperial gallons) supply fuel to both engines on the respective side of the airplane with cross feed valves preventing flow across the airplane.

As the fuel is burned off and the level of the inboard fuel tanks drops to about ¾ full, an automatic float-operated valve opens an interflow valve which admits fuel from the outboard tank to the inboard. In this manner, the pilot never has to switch tanks. As the fuel level in the outboard tanks reaches a predetermined minimum, a warning lamp tells the pilot to shut off the submerged booster pumps which operate at all other times. Likewise, if an unbalance of 1,000 lbs. in fuel loads on left and right wings should occur another warning light apprises the pilot. Fuel can be fed directly to any engine from any tank in an emergency.

Fuel controls consist of four lever-type controls which operate firewall shut-off valves in the fuel supply lines and actuate electrical switches which close the high pressure fuel valves on the engine forward of the firewall, a single selector lever which determines whether the engines operate off the inboard or outboard fuel tanks; a single cross-feed control switch and four fuel booster pump switches. Capacitance fuel gages are used with accuracy within 2%.

Power House. Electrical and communications systems equipment is unusually compact. A single accessories compartment aft of the co-pilots seat on the flight deck houses the fire detector relay panels, complete generator control panels, alternator, all relays, terminals of all circuits, etc. On the forward wall of this compartment facing the pilot are all the circuit breakers.

The electrical system uses two engine-driven generators for 28.5 volts, inverters for 115-volt, 400-cycle instrument circuits, transformers for 26-volt, three-phase 400 cycle for instruments; two engine-driven alternators to supply 208-volt, 400-700 cycle power for wing and empennage deicing and galley use; and 600-volt, three-phase, 400-700 cycle supplied by transformer action for the Nesa windshield deicing circuits.

Communications. Opposite the accessories compartment behind the pilots seat is the communications equipment rack, completely enclosed with circuit breakers on the crew side of the panels. Flush antennae are used almost exclusively except for a VHF whip antenna and compass sense antennae. Equipment includes dual automatic radio compasses with magnetic indicators, marker beacon receiver, 20-channel HF transmitter-receiver communications set, VHF 18-channel transmitter-receiver communications set and isolation amplifier. Provisions for VHF navigational receivers including omnirange and localizer, two glide path receivers and another marker beacon are included.

Control Surfaces. Two characteristics mark the control systems. All but one control application use push-pull rods instead of cables, and booster control action in provided by using double rudders and elevator control surfaces. The cockpit controls normally operate the trailing edge segment of these surfaces and these are adequate for any control condition yet encountered. Inboard of the manually-operated control are mechanically-driven segments operated by switches in the cockpit to take care of any eventuality. The elevator booster control is located on the control wheel and the rudder control on the column. All control surfaces are attached by piano hinges rather than brackets and bolts.

While the wing and vertical stabilizer construction is very conventional, the horizontal stabilizer has been mounted well up on the rudder to keep it clear of the jet exhaust under all operating conditions. Weight penalties in rudder structure result but simplicity of structural design throughout should more than cancel out this loss.

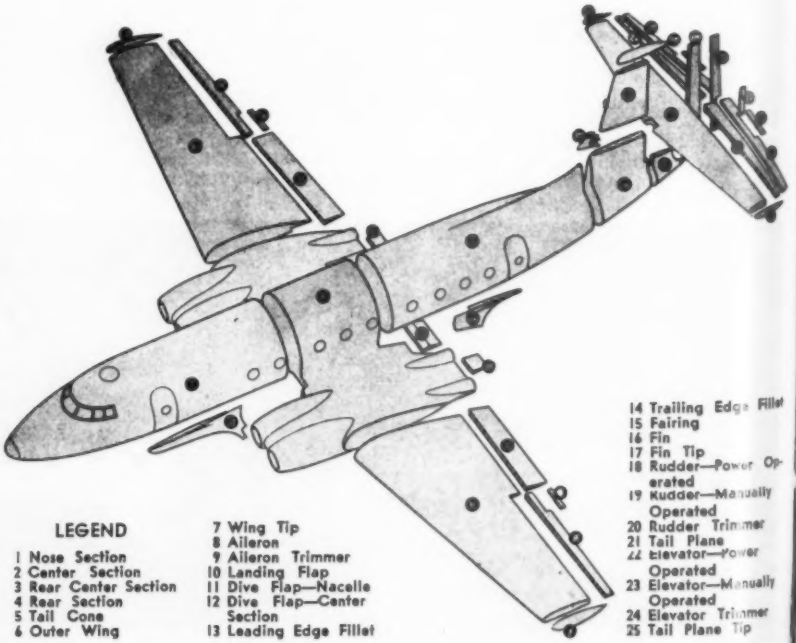
Considerable American-made equipment including the Lear Orienter for communications, the Bendix PB-10 autopilot, General Electric power control panel, Mines Safety Appliance smoke and monoxide detector, Janitrol Heater, Edison fire detector, Barber-Coleman steering system, etc., are used in the ships systems.

As presently arranged the heating systems takes air from an opening in the wing leading edges, through engine-driven compressors on the inboard engines, intercoolers and through or around a Janitrol heater before entering the cabin. Final configurations for the pressurization and heating systems have yet to be decided, although existing provisions are adequate.

There are many accommodations which have yet to be decided and many which must wait for customer specifications. Among the latter group are the seating arrangement (40, 50, or 60 seats), humidification, interior arrangement, final communications set-up, etc. In the design stage as yet are the surface-deicing systems, oxygen system, ultimate control arrangements, landing gear latch system, etc. These are not obstacles but merely decisions which must yet be made.

Indications are that the $10-15 millions spent in the design of the C-102 was well spent. Simplicity of structure, the miniature-size landing gear, low landing speeds, accessibility, etc., all provide some important reasons to feel that the Canadians have a sound design which reflects the airline-manufacturer cooperation which marked the design stage of the C-102 Jetliner.

Component Analysis of Avro's C-102



LEGEND

1 Nose Section
2 Center Section
3 Rear Center Section
4 Rear Section
5 Tail Cone
6 Outer Wing
7 Wing Tip
8 Aileron
9 Aileron Trimmer
10 Landing Flap
11 Dive Flap—Nacelle
12 Dive Flap—Center Section
13 Leading Edge Fillet
14 Trailing Edge Fillet
15 Fairing
16 Fin
17 Fin Tip
18 Rudder—Power Operated
19 Rudder—Manually Operated
20 Rudder Trimmer
21 Tail Plane
22 Elevator—Power Operated
23 Elevator—Manually Operated
24 Elevator Trimmer
25 Tail Plane Tip

Airport Fire Proposals Arouse Industry Protests

At the present time it is difficult, if not impossible, to pin-point responsibility for effective fire fighting and rescue operations at airports on any one group—operators, municipalities or airport management. Within the economic capacity of each airport, fire trucks, manpower and training are provided. When the National Fire Protection Association, a non-profit organization that has drawn up fire fighting standards in about 60 fields, joined with industry groups to propose airport standards, it started something.

Last week some 50 officials representing a cross-section of the aviation industry met in New York to discuss NFPA Bulletin 18, "Aircraft Rescue and Fire Fighting Equipment for Airports." The attitude of airport executives had changed from neutral to hostile. After three years of preparation and discussion of Bulletin 18, there were direct requests for another year in which to evaluate its adequacy and implications.

Prime Objection. The primary objection to the recommendations of the NFPA was the wording of paragraph 105, a key point in the presentation. Here, the "primary responsibility" for aircraft rescue and fire fighting on the movement area of an airport was delegated to airport management. The legal implications of such responsibility and the economic crises represented in meeting these responsibilities (as outlined in Bulletin 18) were staggering.

Under Bulletin 18's specific recommendations, airports operating DC-3, Convairs or Martin 2-0-2's would require a full-time staff of four fire fighters plus six auxiliary trained men. At airports operating aircraft of the DC-4 class, a minimum of five fulltime firemen plus seven auxiliary trained men would be required.

The Cost. Hervey Law, representing the Port of New York Authority, stated that to maintain a five-man crew required 23 men to cover vacation, sick leave, days off, etc. At Washington National Airport this five-man coverage cost $38,000 per year in direct salaries. Cost including training exceeded $100,000. No small budget item, the expense of this one provision exceeds the total operating budget of some sizeable airports.

In making a study of airport fire fighting provisions around the country, Law found that Chicago maintains a staff of 17 men (all shifts included) at a cost of $7[illegible]00 in direct payroll, Los Angeles with a total of 24 men pays out $114,000 per year and in Miami the Dade County Port Authority spends $136,000 per year in direct payroll.

Many Obstacles. Jack Curtiss, United Air Lines' director of safety, presented the most outstanding views on the problems experienced by the airlines as applicable to any volunteer group. The airlines are interested in contributing manpower to aid in such emergencies, he assured the group, but it's mighty expensive: unions are opposed to making firemen out of mechanics, etc.; insurance coverage for the men is difficult to assure; "no one wants to get burned;" family ties rightly add reluctance to participation on the part of volunteers, etc.

The airlines are not interested in the airplanes, said Curtiss, their interest is humanitarian. This sentiment was voiced by most of the delegates some time during the day.

While training may not appear to be a big expense item, Curtiss pointed out that a typical fire drill would involve some 4,500 gallons of fuel and from 400-500 lbs. of extinguishing agent. Also involved are the clothing and equipment requirements and often time and one-half for hourly employes training on an over-time basis.

How Much? Provisions of Bulletin 18 which establish the type of extinguishing agents to be used and the amount which should be maintained were also objectionable. W. (Wiley) Post, representing the American Association of Airport Executives, urged that the minimum quantities of fire extinguishing agent be cut about in half throughout the range. The 300 gallons of water for foam at class 1 airports would be reduced to 150 gallons and so on right through the 4,500 gallons recommendation for Class VIII airports.

NFPA Technical Secretary George H. Tryon, III, urged that no such cuts could be technically justified. "These (quantity recommendations) are boiled down to a point where some of our fire authorities feel we have passed the margin of safety," said Tryon, referring to the present day transport as a "fire-wise monstrosity."

Bulletin 18 also states: "Experience criteria dictates the selection of carbon dioxide and foam (with option to fog-foam or water-fog) as the most effective means currently available for aircraft rescue and fire fighting." Manufacturers of dry chemical fire extinguishing went on record with the promising results of tests now being conducted with these agents on large-scale fires. The main objection at present appears to be that any tests have shown that foam and dry chemicals are not always compatible with loss of foam effectiveness resulting from their intermixing.

Fire Facts. CAB's Ben Ashmead was called on for statistics on airport fires involving aircraft. While everyone is in favor of improved protection within the economic limitations of the participating groups, Ashmead's statistics had the effect of tempering any glaring need for these facilities. Of 114 air carrier accidents in 1948, only 15 involved fire after impact. Of these 15, only 8 occurred on or within the airport area.

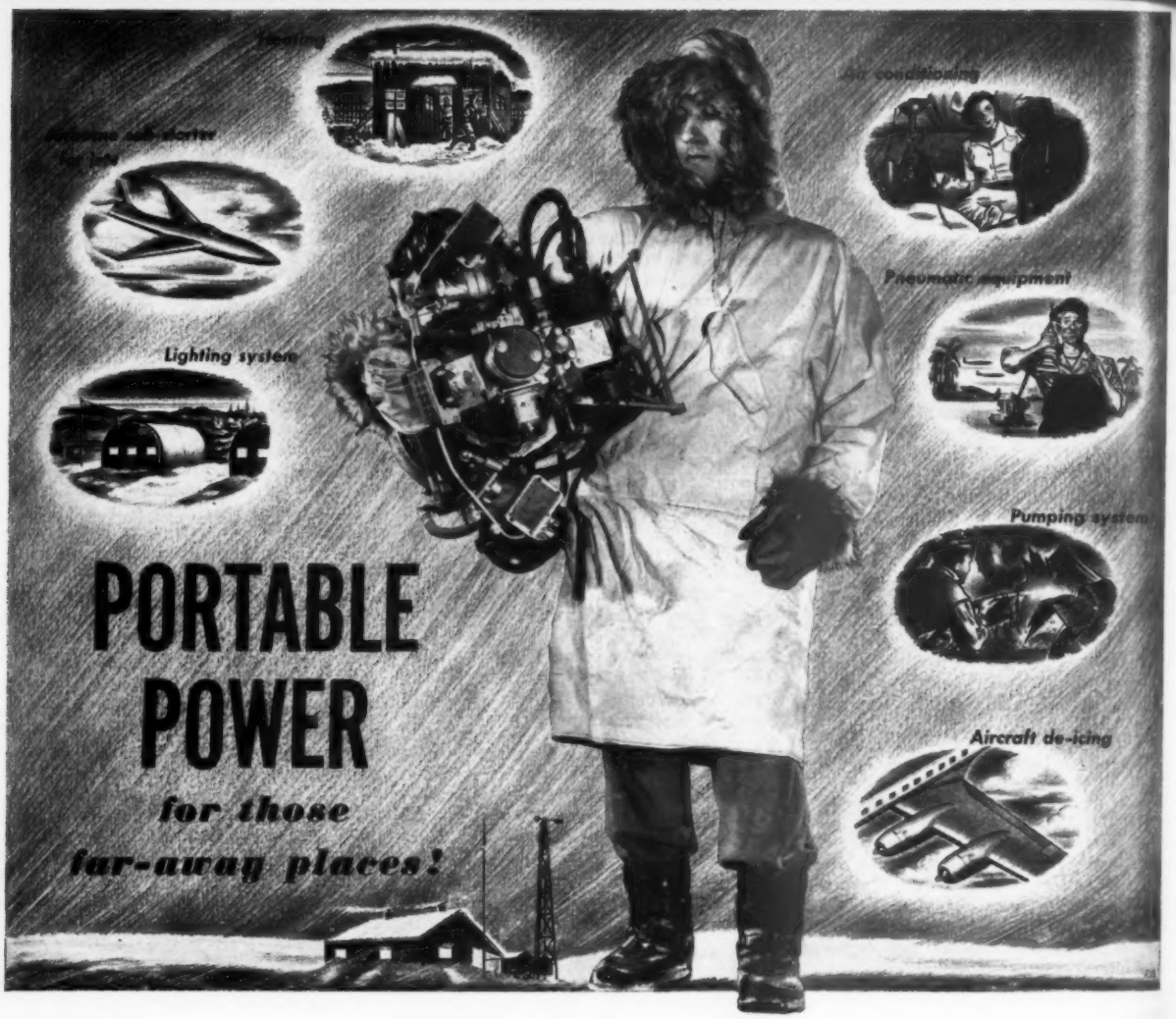
Two of these accidents resulted in facilities and two of the aircraft were destroyed.

In the 302 non-air carrier accidents involving fire after impact in 1948, 131 occurred beyond five miles of the airport boundaries. While 214 of these accidents (70%) were fatal, 164 involved collision and stalls, 67 occurred during take-off and climb, 21 on impact following aerobatics and 21 accompanied collision and stalls during landings. In most of these cases fatalities were not the result of fire but of impact.

As a result of discussions and statistics presented by the interested agencies, final action on Bulletin 18 was delayed. Motions were adopted to delete paragraph 105 and adopt a suitable section to replace it. Meanwhile additional consideration will be given to the portions of the recommendations dealing with minimum acceleration for crash-fighting equipment, affect of CAA and industry fire prevention efforts on these needs, advances in use of various extinguishing agents, etc.

NAL's New V.P.'s—John L. Morris, Jerome M. Rosenthal and Robert E. Wieland, Jr. (left to right), are newly elected vice presidents of National Airlines. Morris had been special assistant to the president since joining the line in 1946; Rosenthal, former director of industrial relations, is now vice president—industrial relations; and Wieland, special NAL representative at Havana for the past three years and a director since last summer, is now vice president of foreign operations.

Airport Directory: A directory of Louisiana airports revised to October 1 has been prepared by T. B. Herndon, chief of the aeronautics division of the state Department of Public Works. Compete information on the airports is furnished. Eighteen airports are listed as new.



Tucked under this man's arm is an amazing new source of power

It is an 88-pound gas turbine compressor, developed by AiResearch, that's capable of providing power for any job in the 50 hp range. Lightweight enough to be taken anywhere, it needs no water for cooling... is so vibrationless that it could literally be put to work hanging on the end of a rope.

Developed for the Navy, it is the heart of a successful airborne self-starting system for jet and turboprop aircraft. The first auxiliary gas turbine of *any* type to pass gruelling 200-hour government qualification tests, it has also completed a 500-hour endurance test ...40% of the time under full load, 40% under ¾ load, and 20% under lower loads and in starting.

As a basic pneumatic power station, this compact AiResearch turbine can solve the problem of power supply in remote places for heating, cooling, pumping, running generators or pneumatic equipment.

• Whatever your field, AiResearch engineers—designers and manufacturers of rotors operating in excess of 100,000 rpm—invite your toughest problems involving high speed wheels. Specialized experience is also available in creating compact turbines and compressors; actuators with high speed rotors; air, gas and fluid heat exchangers; air pressure, temperature and other automatic controls.

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Los Angeles 45, California

Airline Use of Single-Engined Aircraft Opposed by Cities

By Keith Saunders

Although not the major issue in the Parks Investigation Case, the question of whether single-engined aircraft are feasible for use in scheduled airline service was prominent in the hearing which ended this week.

The opposition to the single-engine operators began to appear early in the hearing, when witnesses representing cities certificated to be served by Parks Air Lines expressed a desire for service by "DC-3's or better" and proclaimed their opposition to service by a carrier using single-engined equipment.

The single-engine proponents contended "it's only natural for any city to ask for service with the newest and largest equipment its airport will accommodate, even though its traffic potential is only three passengers per day."

"If offered an alternative of single-engine scheduled air service or no service at all, virtually every one of these cities would happily welcome the single-engine operator," said James W. Batchelor, counsel for Ozark Air Lines.

Ozark is one of three applicants in the case that propose to operate a portion or all of the Parks routes with single-engined aircraft. The others are Central Airlines, which uses single-engined Beechcraft Bonanzas on its own certificated feeder routes, and Parks, which would like to activate its routes using Cessna 190's or similar single-engined aircraft should its proposed merger with Mid-Continent Airlines be disapproved.

Issues. The hearing, held in Washington before CAB Examiner Paul L. Wiser, dealt with three questions: (1) Should Mid-Continent be permitted to acquire the Parks routes and integrate them with its own? (2) Should Parks' certificate be revoked on the grounds that it is not "fit, willing and able" to activate them? (3) If the Parks certificate is revoked, to what carrier or carriers should its routes be awarded?

Mid-Continent officials urged the Board to experiment no further with untried feeder applicants and "try at least one experiment with an established carrier, able to establish service on relatively short notice."

They said that the geographical location of MCA's own route system, plus the company's facilities and experience, would enable the company to serve cities on the Parks routes with the least delay and at less expense than any other carrier. They urged approval of the merger but at the same time pressed their own application for the disputed routes should the Board decide to disapprove the merger and also revoke the Parks certificate.

Prefers Merger. Oliver L. Parks, president of the feeder bearing his name, testified that his company preferred that CAB approve its proposed acquisition by MCA, but is prepared, if the merger is disapproved, to begin operating the 4,003-mile route system with single-engined equipment.

He said that when the merger agreement was signed last May, his company had no hope of raising the $3,500,000 estimated to be needed for activating its routes with twin-engined equipment, and CAB at that time was not permitting use of single-engined aircraft in scheduled interstate operations.

"We had no alternative at the time," he said, "but now that we have made the agreement with Mid-Continent, we would like to see it approved."

Surveys Made. Parks said the company had made survey flights over two segments of the routes using a Cessna 190 and was convinced most of the cities on the route system could be served adequately and economically with such equipment.

Ozark Airlines, which would like to operate major segments of the Parks routes using five-place Cessna 195's, made a plea for single-engined service.

It said "The expansion of airports has not kept pace with that of the airplanes as used by the major air carriers, and it will probably be several years before a majority of the cities will have facilities adequate for the use of such equipment.

"Ozark believes that inauguration of single-engine feeder airline service . . . can bring to all but the smallest villages the advantage of air transportation. Ozark (which operated an intrastate air service using single-engined planes in 1945) has found that very few passengers object to the single-engined airplane if

First Flight—The Douglas DC-6A Liftmaster, a post-war commercial plane designed exclusively for cargo operations, is shown here during its first flight. Designed to carry 30,000 lbs. cargo over 2,100 miles non stop, the Liftmaster is pressurized and air conditioned. Special features which make it particularly suited for its assignment include the 66 ft. long cabin and the extra-large loading doors. The front door is 67 by 94 in.; the rear door 78 by 124 in.

At IATA Conference— The 30th anniversary meeting of the International Air Transport Association at The Hague last month had its lighter moments, along with weighty deliberations, as shown by accompanying pictures. At upper left: attending a reception given by KLM Royal Dutch Airlines which played host to the IATA meeting, are (left to right) Juan T. Trippe, president of Pan American Airways; John C. Leslie, vice president of PAA and a member of the IATA executive committee; Mrs. L. H. Slotemaker, wife of KLM's v.p.-foreign relations; and Warren Lee Pierson, board chairman of Trans World Airline and president-elect of IATA. Upper right, Harold R. Harris, v.p. and general manager of American Overseas Airlines; Sir William P. Hildred, IATA director general; Wayne W. Parrish, editor and publisher of American Aviation Publications; and Albert H. Stackpole, vice president of American Aviation Publications. In photo at left are Mr. Parrish and Mr. Trippe. The world airline organization will hold its 1950 meeting in the United States.

it is comfortable, fast and roomy, and that the lack of an extra engine is offset by the ease with which it can be landed in most cleared spaces in the event of an emergency."

It added that "the flexibility of operations of this type of plane . . . the low initial cost of the plane, and the greatly reduced maintenance cost will enable Ozark to give the maximum service to the communities to be served at the very lowest cost to the government." Its exhibits purported to show that Ozark's total operating costs with the Cessna would be a little over 31 cents a revenue mile and that with a 50% passenger load factor and 85% performance factor its break-even mail pay need would be less than 20 cents a mile.

Opposes Single-Engine. Sharpest attack on the single-engine proposals was that made by Robert Aldrich, executive director of the Minneapolis-St. Paul Airports Commission, who said the Commission had had no opportunity to protest the certification of Central Airlines to serve the Twin Cities but was unanimously opposed to a second single-engined service coming there.

The Twin Cities protest was based on studies made by H. C. Timberlake, economist and statistician, using the performance of single-engined aircraft in certificated airline operations (mail and cargo only) during the war, and the actual service rendered by an airline operating under VFR daylight authority last year.

Timberlake worked up what he called an "Effective Passenger Service Performance factor," arrived at by subtracting from the total number of aircraft movements scheduled the number of movements not operated plus those off-schedule more than 60 minutes.

Low VFR Factors. Applying this formula to Northwest Airlines' single-engined Stinson operations with VFR daylight authority in November, 1944, he found that only 24 of 120 flights operated within 60 minutes of schedule, for an effective passenger service performance factor of 20%.

When applied to 3,720 scheduled movements of Wisconsin Central Airlines Lockheed 10-A's operating in November, 1948, with VFR daylight authority, it was shown that 1,987 flights were not operated at all and 303 were more than 60 minutes off schedule, leaving an EPSP factor of 38.4%.

On the other hand, NWA's operations in and out of the Twin Cities during the same month with twin-engined DC-3 and Martin 202 equipment and with instrument authority resulted in an EPSP factor of 71.7%, with 172 schedules operating within 60 minutes of schedule.

Aldrich said the studies "show very conclusively that communities saddled with single-engined airline transport can expect very little service when the weather gets bad. Such "fair weather airline service" is not the kind of service wanted by communities which have spent large sums of money on their airports, he added.

Weather Records. Ozark subsequently sought to rebut this testimony with weather information taken from the Weather Bureau publication titled "Flying Weather of the United States." This showed that 49 weather stations in the midwest states of Kansas, Oklahoma, Missouri, Arkansas, Tennessee and Indiana reported a year-around average of 90.3% contact or VFR weather, 7.73% instrument weather and 3.19% of below-minimums. For the states of Illinois, Iowa, Wisconsin and Minnesota, the averages were 87.25%, 8.98% and 3.71%, respectively.

Central Airlines, which has been operating single-engined Bonanzas in scheduled feederline service in Oklahoma and Texas for the past 30 days, also supported single-engine operations.

"Operating under VFR rules will under certain conditions make it impossible to achieve maximum performance of schedules," it said, "but judgment of weather in the area . . . leads the company to believe that the 'number of schedules' which Central could not complete, as compared to flying under instrument authority, is not as great as might at first be expected . . . On Central's Route AM-81 a completion factor of 85% is estimated. Only experience can give the final and accurate answer on this matter, but Central is of the opinion that such a completion factor is very conservative."

From a practical standpoint, it said, on such short hops as Central operates (average about 77 miles and 40 minutes) the pilot will be able to see his point of destination soon after leaving his point of departure.

Central added, "It is obvious that when weather is too severe all forms of transportation are grounded, delayed or completely stopped. Generally, Central is of the opinion that the number of times that it will be unable to complete a schedule, either by flying direct or through use of an alternate routing, will be small compared to the number of flights made over a period of a year."

"Without my Sperry Gyrosyn I couldn't have won!"

James Stewart and Mrs. Stewart congratulate the winner. Stewart owns the plane.

Navigating solely by dead-reckoning with the Gyrosyn* Compass, Joe De Bona at the controls of his F-51-C "Thunderbird" set a new race record of 470.136 miles an hour in the 1949 Bendix race.

"I was able to 'steer to a degree' with the Sperry Gyrosyn," De Bona said. "After setting the Gyrosyn at take-off in California to insure the best 'take-off heading,' I climbed to 27,000 feet and navigated a great circle course entirely by this instrument. To confirm my 'on course' accuracy, I used visual checks along the way.

For example, I dead-reckoned about 850 miles to Colorado Springs, and computed a course 10 miles south of the city. It looked like about 6 to 7 miles south when I passed over. Later, my course called for a heading which cut between Goshen and Ft. Wayne, Indiana. When I got there, I split the two towns accurately as planned."

This transcontinental speed dash tests the skill of the pilot, and the flying ability and stamina of his plane. In winning the 2100-mile race in 4 hours and 16 minutes, Joe De Bona proved that he had both. And in flying at a speed where a minute means about 8 miles, he was able to prove once again, the importance of pin-point navigation and the Gyrosyn Compass.

Joe De Bona

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Wisconsin Feeder Follows Strict Economy Policy

By ERIC BRAMLEY

Never let it be said that Wisconsin Central Airlines doesn't know what the word "economy" means. A WCA employe, in order to buy a 15c item, practically has to crawl in on his hands and knees and prove conclusively that the airline will shut down right now if he doesn't get it.

These strict economy measures have been necessary because WCA was born poor. It was started with about one-third of the cash that its officials deemed necessary. The fact that it has been continually strapped for cash led its officers to adopt certain measures that sound almost impossible.

During a visit to the feederline's Madison headquarters we discovered that WCA:

1. Persuaded the intermediate cities on its routes to set its landing fees during the first year of operations at $1 for the entire year.

2. Persuaded the same cities to build its ticket counters and furnish its station space, and then set its rent at only $1 to $2 per sq. ft. per year.

3. Rented from the city a large hangar at Madison airport for company headquarters. It pays $600 monthly, and gets it all back by collecting $600 monthly rent from the Wisconsin Air National Guard for half of the hangar floor space.

4. Has no traffic-sales employes at any of its stations; instead, its station managers "switch caps" and perform several functions.

The history of what is now WCA goes back several years. Officials of the Four Wheel Drive Auto Co., located in Clintonville, Wis., were getting a bit tired of spending all day on the train when they had business in Chicago. In 1939 they bought an airplane and told Francis Higgins, the company's advertising director, to keep an eye on the operation. Soon Clintonville businessmen were asking if they could ride to Chicago and other points, and they were welcome if space was available. Some more planes were added and Higgins ended up with a small airline on his hands—an airline that was flying an average of 120,000 miles a year.

When WCA received a CAB certificate on Dec. 31, 1946, it was still controlled by Four Wheel Drive. CAB, however, believed that operation of a commercial airline by a manufacturing organization "might be detrimental to the traveling public," so FWD and WCA severed their relationship. Higgins left FWD and remained with Wisconsin Central as president.

By Oct. 3, 1947, WCA showed that a reasonable number of airports were in shape and that the FWD severance was complete, and was thus qualified to operate under the certificate. Operations started on Feb. 24, 1948, with 75,000 miles a month scheduled.

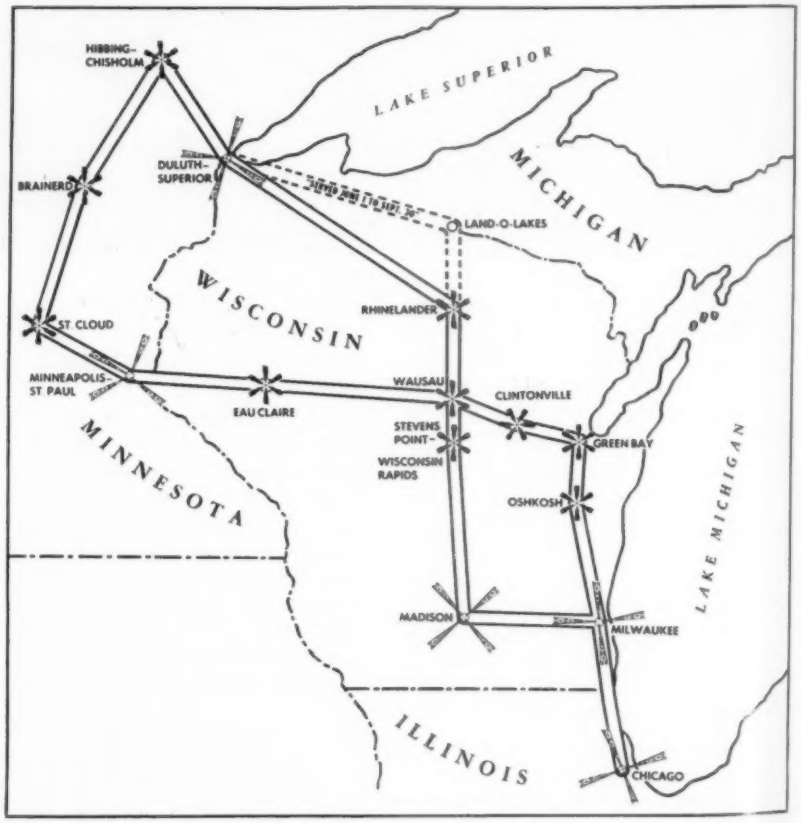
Execs Hit the Road. During the pre-operational period, Higgins and Hal Carr, who had joined the company as executive vice president after several years with TWA, were faced with the necessity of keeping the company together. This might have been simple except for a small detail—they had no money. So they set out to visit all the certificated towns to sell stock. They tell some wild yarns about their experiences—about signing up people on sick beds, in bar rooms—everywhere. About the time Higgins met a group of men in a bar who were attending a grocers' convention, and signed them for anything from one share up, using paper napkins when he ran out of blanks.

Finally Loewi & Co., Milwaukee, agreed to underwrite a stock issue, and the net result was that WCA ended up with $354,000, or about one-third of what it thought it should have to start operating. Rather than wait, in the face of a market that was very cool toward feederline stocks, the company decided to give it a try.

Again Higgins and Carr hit the road. At each intermediate stop they told the same story: "We want to give you service. We're short of money and we can't pay you any landing fees. If we can work out a deal we'll stop here. Otherwise we'll have to pass you up." Result: the intermediate towns signed for $1 for the first year. At terminals such as Chicago, Milwaukee and Twin Cities, WCA got a landing fee schedule that was about one-third of that paid by the trunk lines.

At the present time (second year of operation) an intermediate town collects landing fees amounting to 1% of the passenger revenue generated in that town. Next year it will get 2%.

Operating in Black. Due in part to the fact that it has kept costs down, WCA has been doing all right. During 1948 it lost $34,000, but this year it is in the black. August, for example, showed an operating profit of $19,431, with 4,600 passengers carried. The company's six Lockheed Electras are scheduled for about 175,000 miles a month, and load factor is around the 50% mark. At present, WCA makes 16 stops serving 21 cities from Chicago on the south to Hibbing-Chisholm, Minn., on the north. It is certificated for 34 stops serving 44



MAP SHOWS POINTS at which Wisconsin Central Airlines installed, at a cost of $100,000, H-type ranges in order to obtain instrument authority over its system. Facilities shown at Duluth-Superior, Twin Cities, Madison, Milwaukee and Chicago are government range stations.

► Twenty years ago, Transcontinental Air Transport, Inc. — now Trans-World Airlines—inaugurated its transcontinental service with a fleet of Ford tri-motor airplanes. From that modest beginning, TWA has grown into the largest user of Constellations on both domestic and foreign routes . . . into one of the great leaders of modern air travel development.

► And now to TWA, Wright Aeronautical says . . . more power to you as you continue to expand and improve your great cross-country and transoceanic air service.

THE POWER BEHIND MANY TWA "FIRSTS"

► During 20 years' operation, Trans-World Airlines . . . and its predecessor, Transcontinental Air Transport, Inc., pioneered many major advancements.

► It was the first airline to use Constellations. It initiated all-air cross-country passenger service and the employment of combination lounge-sleeper planes and 4-engine equipment on passenger schedules.

► TWA also pioneered high altitude commercial flying with pressurized cabins . . . the use of all-cargo aircraft, flight plans based on flight-route weather analysis and many other new airline developments.

► Wright Aeronautical . . . provider of power for many of these pioneering achievements . . . is now developing through research and engineering more and better power to meet TWA's increasing requirements in the years to come.

POWER FOR AIR PROGRESS

WRIGHT

Aeronautical Corporation • Wood-Ridge, New Jersey

A DIVISION OF CURTISS WRIGHT FIRST IN FLIGHT

cities, but until airports and other matters are straightened out there won't be much of an increase over present operations.

When speaking of economy, Hal Carr likes to haul out the figures. Taking a monthly feederline sheet, he points to 94.02c a mile as the average of the other feeders' direct and indirect operating expenses. WCA showed 78.01c, which is due in some measure to the smaller equipment operated. The others' passenger service expense, for example, was 3.85c against WCA's 0.36c; traffic and sales 7.82c against 1.51c, and advertising and publicity 3.23c against 0.92c.

There have, however, been several times when WCA hasn't been sure that it would make the grade. Last year it was authorized only for day contact operations due to a lack of navigational facilities. Came November and bad weather. Schedule after schedule canceled and the result was a November performance of 47%. The company kept the sheriff away by the skin of its teeth, and vowed that the obtaining of instrument authority was number one on the list. CAA wasn't inclined to put in the necessary aids, so WCA did it on its own, installing 10 H-type ranges. The program is now completed and it's costing $100,000, but WCA has its much-needed instrument authority.

Community Cooperation. Despite its numerous difficulties, which most feeders experience at the start, WCA has a number of advantages that should make any operator happy. These include:

1. The welcome and the cooperation it has received from the towns on the system. Particularly the smaller towns feel that this is "their" airline. They'd never had air service before and they wanted it, as is evidenced by the $1 landing fee deal and the fact that the towns built ticket counters for the airline. Unlike many places in the U. S., these towns enjoy having WCA planes fly over business and residential sections—it's evidence that their airline is operating. Many of the towns helped with installation of the H facilities and save the company $15,000. Chambers of Commerce distribute timetables and other WCA literature. Because WCA serves what it says is the smallest U. S. certificated stop (Land O' Lakes, population 400, served because it's in the heart of the resort area) it is constantly besieged with requests from small communities for service. For example, a representative from Wild Rose (population 559, one 1,000-ft. grass strip) has been to Madison two or three times asking for service. WCA has held more than one inaugural flight ceremony when the temperature was 20 below zero and drawn big crowds. Because of this town spirit, WCA spends little money on advertising. The company's "one-woman" news bureau, capable Peg Bolger, sends the news releases out and the newspapers use them.

2. Surface transportation. The railroads, originally laid out to take care of the Wisconsin logging industry, leave something to be desired, to put it mildly. There are many spots where rail service is either non-existent or is so slow as to be impossible. Examples: Twin Cities to Hibbing, 225 miles, 11 hrs. 50 min. by train, and two hours by air. Duluth to Land O' Lakes, 155 miles, 12 hrs. 55 min. by rail, 4 hrs. 55 min. by bus and one hour by air. If you want to go from Green Bay to Twin Cities by rail, you first travel south to Milwaukee and start from there. WCA flies it in two and a half hours.

3. Business travel. The area is rich in industries—cheese, butter, paper, etc. Company officials are using the airline, and salesmen are covering territory in a couple of days that formerly took a week or longer. Business travel is the backbone of its traffic, WCA says.

4. Vacation travel. Wisconsin is a popular vacation area, and the airline's summer business has boomed. Many Chicago businessmen send their families to Wisconsin for the summer, and fly up and back each weekend.

5. Interline business. Over 50% of WCA's business is interline, and the company thinks this is probably the highest percentage in the industry. WCA, say its officials, hasn't been tramping on the toes of the other airlines, and the latter have been cooperating to the hilt.

6. An excellent company spirit. All 191 employes are in on the act—they get a daily report from Higgins on the previous day's traffic, traffic for the month to date, financial statistics, etc. As a result, they're well informed and they sell the airline. We were on a flight with Capt. Lloyd Franke and First Officer Frank Musengo, and they knew more about their company than any crew members we had talked with in a long time. WCA, incidentally, has 10 pilots based in the Twin Cities, and their wives have organized a telephone club for traffic solicitation. They take turns on duty, calling clubs, companies and other potential sources of traffic, and have produced a substantial amount of business.

No Traffic Staff. The company expects to carry about 35,000 passengers this year, compared with 11,400 in 1948 (from Feb. 24, when service started, to Dec. 31). And this despite the fact that it has no traffic-sales employes at any of its stations. Station managers and agents not only handle operations at the field, but are responsible for telephone solicitation, timetable distribution, personal calls, etc. They are also licensed weather observers and radio operators.

In eight places, the station managers make daily weather broadcasts from the airports, including information on whether WCA operations are routine, or whether there are delays, and where. In only two spots does WCA have downtown office space—Chicago, where it has a counter in TWA's office, and St. Paul, where it has a desk in a hotel lobby.

To keep the record absolutely straight, let it be said that two weeks ago, WCA did appoint three traffic-sales employes. They're regional traffic managers, who will look after the southern, northern and central regions. Thus, the company has the beginning of a traffic organization. However, it will be a long time before this decreases the number of caps the station managers wear—they'll still be the salesmen in their towns.

On the operations-maintenance side, WCA has had little trouble with its Electras, and is getting daily utilization of 7 hrs. 40 min. It handles its own airframe overhaul at Madison, while engine overhaul is done by Northwestern Aeronautical Co., St. Paul. Electra spare parts have been somewhat hard to get and are high-priced, but WCA solved it in part by buying an almost-flyable Electra for $1,300 and taking several thousand dollars worth of parts off it.

WCA now has 40 pilots and co-pilots, 30 based in Madison and 10 in the Twin Cities. As evidence that the feederline doesn't have too many pilots on the payroll, Carr cites the record for June. Captains averaged 84 hrs. 30 min. flying time during the month, out of 85 hrs. allowed. "Can't figure out how we missed the other 30 minutes," says Carr.

Figuring that there's no substitute for experience, WCA initially went out after personnel who knew something about airlines. Higgins, in addition to running FWD's "airline," has a wealth of contacts throughout the system and has been successful in dealing with the communities. Carr had been with TWA for several years, and was assistant director of route development when he left to join WCA. Del Hendrickson, operations managers, had been with

Francis M. Higgins
WCA President

Hal N. Carr
Executive V. P.

Ray E. Noetzel
Superintendent-Maintenance

20,000 Miles in 3 Weeks!

YOU probably are aware that AMERICAN AVIATION's editors and writers are a much-travelled group, turning up every issue with stories you don't see elsewhere about industry meetings and visits to offices and shops all over the world.

This past month provides a good illustration of the way AMERICAN AVIATION gets around. During the first three weeks of September we attended:

1. The National Air Races in Cleveland.
2. The Champion annual spark plug and ignition conference in Toledo.
3. The International Air Transport Association meeting in The Hague.
4. The 10th Society of British Aircraft Constructors exhibition and display at Farnborough, England.
5. The Pratt & Whitney engine seminar at Airwork Corp., Millville, N. J.
6. The NACA annual Flight Propulsion Laboratory inspection at Cleveland.

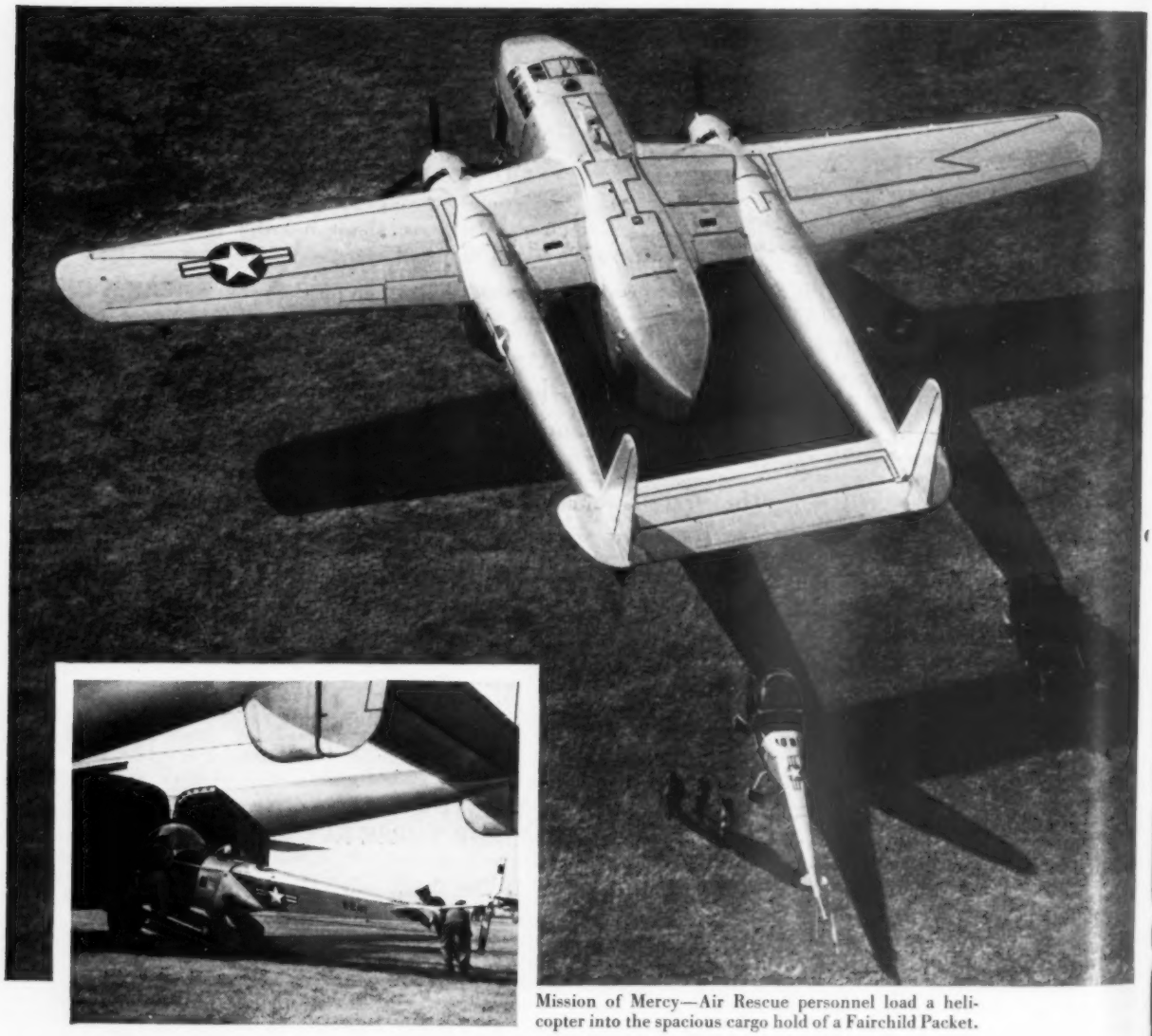
NO OTHER AVIATION MAGAZINE
ATTENDED ALL OF THESE EVENTS!

Although covering these affairs involved only a part of AMERICAN AVIATION's editorial staff (the largest in aviation publishing), the assignments required more than 20,000 miles of air travel.

Add to this total several routine field trips—such as a tour of New England airports studying snow removal methods, a visit to one of the largest helicopter plants in the country, and a number of calls on various airlines—and you have a picture of the way AMERICAN AVIATION gets around.

AIR RESCUE

Over faraway jungles, deserts and mountains, helicopters of the USAF Air Rescue Service have flown in search of stranded airmen and passengers. The helicopters got there because they have been given a "mother" ship—the Fairchild Packet—that transports them over distances far beyond their range. Thus, our Air Force has added a new ability to the versatile Fairchild Packet—increasing the importance of its part in the development of modern airborne military tactics.



Mission of Mercy—Air Rescue personnel load a helicopter into the spacious cargo hold of a Fairchild Packet.

FAIRCHILD ENGINE AND AIRPLANE CORPORATION
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TWA, Empire, Pacific Northern and CAA's air carrier division. A. E. Schwandt, secretary-treasurer, came from FWD. Ray Noetzel, superintendent of maintenance, had been with American and Colonial; Bob Thorne, manager of tariffs and schedules, with TWA; Tom Needham, superintendent of stations, with TWA; L. E. Cleland, superintendent of communications, with Empire, and J. D. Sims, superintendent of flight control, with TWA.

Equipment Plans. There's no denying that it's quite a come-down to step off a DC-6 or a Constellation in Chicago and board one of WCA's not-too-roomy Electras. The fact that the feederline has run into passenger resistance on this score, plus the fact that the nine-passenger Electras are proving too small on some schedules, has convinced the company that larger equipment is a "must." Following final decision on its mail pay case by CAB (it's now on a 60c-a-mile temporary rate), WCA will buy three DC-3's.

This larger equipment will be placed on the Chicago-Milwaukee-Green Bay-Twin Cities segment, with the six Electras handling the other routes. As with all feederlines at present, WCA's mail revenue overshadows that from other sources ($100,017 passenger and $446,305 mail in the first six months of 1949). With the DC-3's, however, it hopes for a better balance. Although it expects passenger revenue to increase materially, the company believes that cargo can show the largest gain. The many industries along the system need transportation for parts and products and there hasn't been any space on the Electras.

However, even with good days ahead, it's unlikely that WCA will go in for high living. It was born poor and economy has become a habit. Those 15c items will still have to be justified.

Enyart Re-Elected to FAI

William R. Enyart, of New York, former president of the National Aeronautic Association and first American to head the Federation Aeronautique Internationale, was re-elected president of the world aviation body at the conclusion of its meeting in this country. Other international officers who will serve with him are: Jean Bleriot and Jacques Allez, both of Paris, secretary general and treasurer, respectively.

Vice presidents who will serve with Enyart for the next two years are: Whitney Straight, Great Britain; Col. Harold Knell, Sweden; John Jay Ide, United States; Dr. Charles Sillevaerts, Belgium; Gordon F. Henderson, Canada; Baron Amaury de la Grange, France; Marcel Devaud, Switzerland; M. C. Kolff, The Netherlands; Gen. Piero Oppio, Italy; Otukar Svaricek, Czechoslovakia; Churki Seykmensuer, Turkey; and Wlodzimiers Humen, Poland.

Gen. Mikhail Gromov, of Russia, for years a vice president of FAI, was not re-elected due to "apparent lack of interest on the part of his country."

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Low-Fare Tariffs Forecast Battle for Florida Traffic

By WILLIAM V. HENZEY

Certificated carriers operating the New York-Miami route will be afforded an opportunity to compete for low-fare passenger business this winter, but if the increased tariff activity of the non-sked is any gauge, an all-out battle is in the offing.

In the past month, over twenty large irregular carriers have effected or proposed new or reduced fares to and from the Florida area. In addition, promotional schemes for attraction of passengers, and a completely new concentration of efforts on business in the mid-west eliminates any doubt that the non-sked will fight for available traffic.

Latest proposal involving the Miami area was made by Fred Miller's Air America, Inc., which filed a new $39 twin-engined fare between Miami and Chicago, New York, and Philadelphia, and a $35 fare between Miami and Washington. Effective November 4, the new fares are in addition to a $45 New York fare and a $49 Chicago fare for four-engined equipment, which are currently effective.

Between New York and Miami, however, there will be little advantage on the non-skeds' side from a price standpoint with Eastern Air Lines and National Airlines offering the public a $47.40 rate for daily scheduled coach service. The Chicago-Miami market presents an entirely different picture. In the absence of a reduced coach fare, the certificated lines will be charging $78.80 plus tax for standard flights, but this will be from $30 to $40 above fares of Air America, Transocean, and Viking Airliners, to name a few.

Began in August. Starting as far back as August 15, the non-skeds had an eye on winter Miami business as New England Air Express filed a $29 tariff between Teterboro, N. J., and Miami together with a Newark-Miami fare of $40. These became effective September 14.

Others that followed with new tariffs included Hemisphere Air Transport, Modern Air Transport, Economy Airways, Peninsular Air Transport, Trans National, Scott Aero Services, Associated Airways, Arrow Airways, and Trans American.

Significantly, several of these carriers, anticipating stiff scheduled line competition, proposed various promotional schemes under which the passenger received additional benefits at little extra cost, or the same benefits at a reduced cost.

Typical is a group of "special" fares being established by Viking Airliners on October 18. Between Miami and major West Coast cities, such as Los Angeles and San Francisco, a passenger may travel via New York, with a 15-day stopover permitted there, for an additional charge of $40. Add this to the Miami-West Coast direct fare of Viking and the total is only $139. This is approximately $66 less than the same trip would cost via certificated lines even by using the new scheduled coach service on the Miami-New York leg. Strictly from a price basis it is enticing to a certain class of travelers.

Group Discount. On October 15, Air America effected a tariff with CAB which permits a 10% group travel discount applicable "individually to each of a homogeneous group of ten or more passengers." Applicable on four-engined equipment it means a Chicago-Miami traveler in such a group pays only $40.50 instead of $45 for a one-way trip, bearing in mind that the fare of Eastern and Delta for standard service is $78.80 between these points.

Four days later—on October 19—Arrow Airways, a California-based carrier, proposes to establish the 10% discount on a wider basis. Not only will groups of ten be eligible, but service men traveling in uniform, and members of a family accompanying the full fare-paying head of the family. The latter, of course, being a modified version of the scheduled lines' "family plan."

If, however, the non-skeds suffer too greatly from the anticipated strong competition of Eastern and National on the New York-Miami run, they have made preparations for tapping new markets where it is highly unlikely that a scheduled coach operation will be inaugurated for some time.

Using St. Louis as a focal point, Air America has filed fares up and down the Mississippi and to each coast with November 4 the scheduled effective date. Between St. Louis and Chicago, a hot pair of points for American and Chicago & Southern, the non-sked proposes a $9.95 fare, which is $5.60 less than that charged by the two scheduled lines. Between St. Louis and New Orleans a $29 rate is proposed, undercutting the scheduled carriers by $8.75 on a one-way ticket.

New Non-Sked Areas. Others concentrating on this area include Scott Aero Services with a $45.65 fare between Amarillo and Chicago and a $15.70 fare between Chicago and Cleveland; Modern Air Transport with a $24.50 Chicago-Atlanta fare; and Trans Caribbean with a $30 Pittsburgh-Atlanta fare. All of these, of course, in what has been territory practically barren of non-scheduled activities in the past, and all from $3 to $15 less than scheduled lines' fares.

Rounding out the new tariff proposals of this class of carriers are new "package" fares of Associated Airways and Viking to and from Honolulu. For a round-trip journey between the Pacific coast and Honolulu, Associated will charge $250. This will include not only the air transportation, but seven days hotel accommodations at Honolulu, one sight-seeing tour, and one evening of native Hawaiian entertainment and dinner. All of this for approximately $40 less than the normal air fare for a round-trip journey via scheduled carriers. Viking plans the same type of "package" from New York as well.

All in all, it is quite clear the non-sked industry is preparing for this winter and it is entirely possible that in the next thirty days, as many new proposals will be filed as have been submitted in the past month. How long they can survive the continued growth of certificated coach operations is purely a matter of speculation, but the strategic manner in which they are branching out in new "protective" fields this winter, is an indication they'll fight hard.

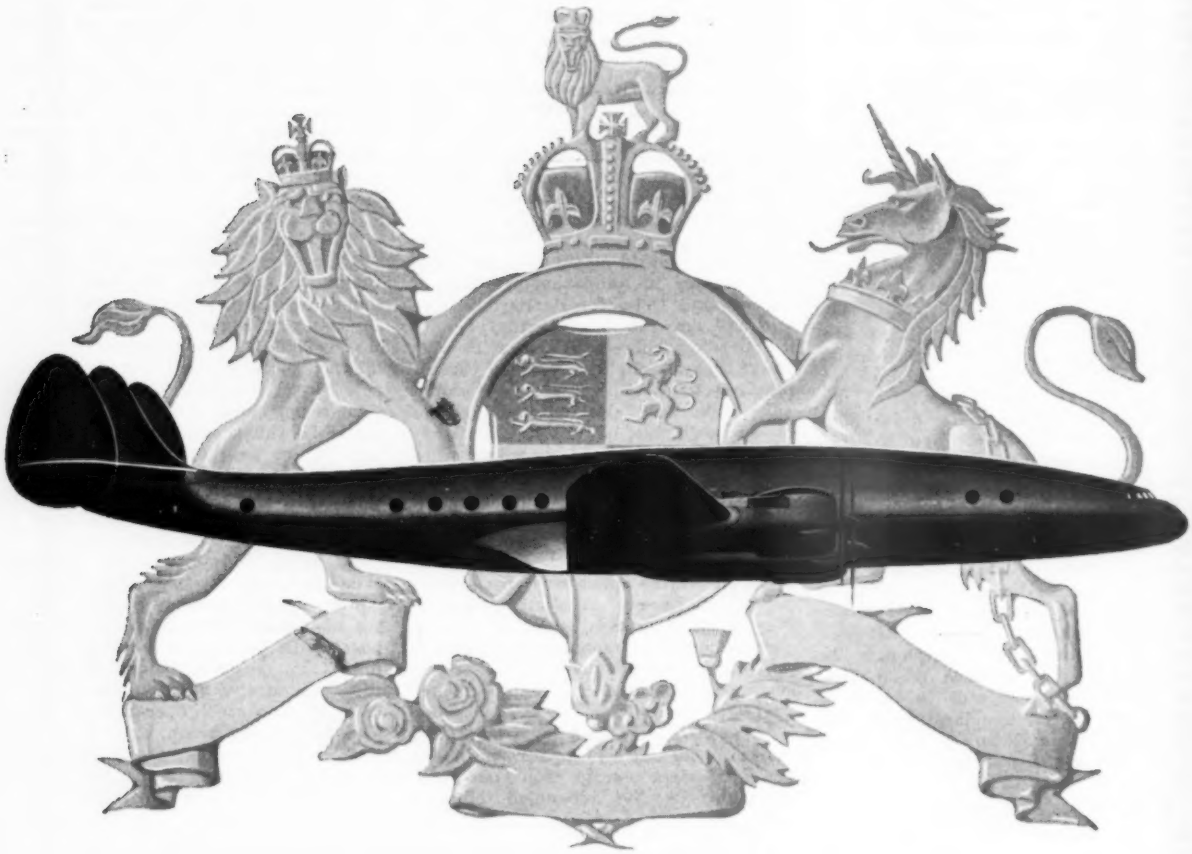
Transport Aircraft Landing and Take-Off Times

The table shown below, compiled by the Civil Aeronautics Administration, provides a reference to the landing and take-off characteristics of transport airplanes now in operation. It should be noted that there are changes taking place in these characteristics and that they vary slightly from model to model within a given type. Recent changes in gross take-off weights and improvements in propeller performance are of particular importance in shaping these changes.

		TAKE-OFF				LANDING			
		Velocity				Velocity			
Aircraft	Number Engines	Miles Per Hour	Feet Per Second [1]	Take-off Distance [2]	Take-off Time in Seconds [3]	Miles Per Hour	Feet Per Second [1]	Landing Distance [2]	Landing Time Seconds [3]
Douglas DC-3 ...	2	80	117	2,500	21	78	115	2,335	20
Martin 202	2	116	171	3,950	23	106	156	2,400	15
Convair 240	2	114	167	3,950	24	110	162	2,365	15
Boeing 307-B	4	110	162	3,732	23	115	169	2,600	15
Douglas DC-4 ...	4	106	156	4,350	28	106	156	3,150	20
Douglas DC-6 ...	4	128	188	5,600	30	130	191	2,940	15
Lockheed 749	4	117	172	5,050	29	122	180	2,800	16
Boeing 377	4	117	172	6,500	38	127	187	3,900	21

[1] Conversion factor 1.47.
[2] Includes length of ground run plus clearance of 50-foot obstacle.
[3] Figures not strictly but only approximately comparable.

The Majestic Constellation



The newest member of the Lockheed Constellation family is the Union of South Africa. This government recently purchased a fleet of these 320-mile-an-hour transports for the South African Airways. Now, four members of the great Commonwealth of Nations fly the majestic Constellation. Australia is represented by Qantas Empire Airways, India by Air India International and the United Kingdom by the British Overseas Airways Corp., all flying the Constellation. Eight other major world airlines also fly, and many have reordered, this famous *tried and proven* airliner, still the world's most reordered four-engined transport.

LOOK TO LOCKHEED FOR LEADERSHIP

Lockheed Constellation

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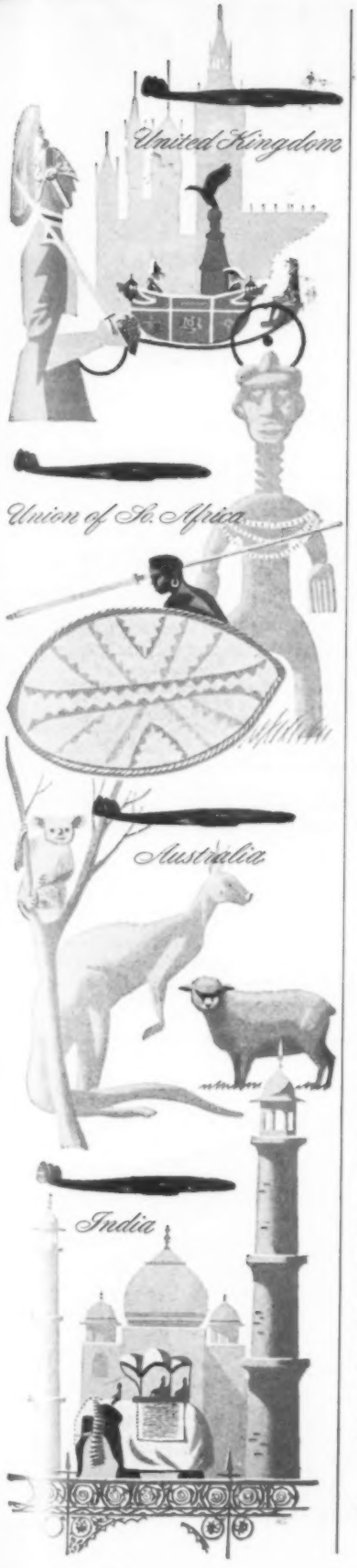

Darr Seeks Merger Of Challenger, Monarch

In the first such proposal from two operating feederlines, the Civil Aeronautics Board has been asked to approve the merger of Monarch Air Lines and Challenger Airlines, and to approve acquisition of the controlling interest in Challenger by H. S. Darr, president of Monarch. Both lines have headquarters in Denver.

If CAB approves the proposal, together with that previously filed by Monarch and Arizona Airways (not in operation), it will create an extensive single-carrier feeder system stretching from Montana to New Mexico.

Under the proposal, Darr, who is well known in the industry, would purchase 224,000 shares or about 76% of the common stock of Challenger now owned by Claude Neon Inc., for aggregate purchase price of $277,000. Darr now owns 53% of Monarch's outstanding shares.

He has held the belief that CAB made a mistake when it failed to award enough mileage to each feeder, and that the average feeder hasn't a chance to become self-sustaining until it is big enough to spread its costs. He believes that with larger service patterns, feederlines will make sense to the public and to the government and won't rely so heavily on mail pay.

Darr is no newcomer to aviation. After learning to fly in 1917, he was state distributor for Curtiss Airplane and Engine Co. in Iowa during the 1920's, and built and operated airports at Des Moines, Ft. Dodge, Oelwein and Fairfield, Iowa, and at Monmouth, Ill. In 1929 he joined the Curtiss Co. at Glenview Airport, Chicago.

His first airline connection was with Century Airline Division of Cord Corp. in 1933, and later with American Airlines when Cord bought control of that company. In 1935 he organized Chicago Aviation Corp. and leased Glenview Airport until 1941, when the Navy took it over. In 1939, Darr was one of the original nine civilians selected by the Air Force to train air cadets, and he built and operated pilot training schools at Chicago, Albany, Ga., Lakeland and Avon Park, Fla. The latter two operations were sold to Al Lodwick. He also built and operated one of three civilian basic pilot training schools at Augusta, Ga., and a training school for the British at Ponca City, Okla.

In 1943, Darr purchased Scott Radio and Television Co., and also has a Coca Cola franchise at Wausau, Wis. He bought 53% of Monarch's stock in 1947.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (39 U. S. C. 233)

Of AMERICAN AVIATION, "The News Magazine of Air Transportation," published twice a month at Harrisburg, Penna., for October 1, 1949.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Wayne W. Parrish, Washington, D. C.; Editor, Wayne W. Parrish, Washington, D. C.; Managing Editor, Leonard Eiserer, Washington, D. C.; Business Manager, John H. Poole, Washington, D. C.

2. The owner is: American Aviation Publications, Inc., Washington, D. C.; Wayne W. Parrish, President, Washington, D. C.; Albert H. Stackpole, Vice-President, Harrisburg, Penna.; E. J. Stackpole, Secy. & Treas., Harrisburg, Penna.

3. The known bondholders, mortgagees, and other security holders, owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. The two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: 10,238 twice a month.

JOHN H. POOLE
(Signature of business manager)

Sworn to and subscribed before me this 4th day of October, 1949.

J. RUSSELL SHEFFER,
Notary Public.
(My commission expires March 9, 1951)

Cherington Warns Feeders Against Trunkline Ambitions

Although the Civil Aeronautics Board's feederline experiment will continue, the Board will "draw the line" on its cost to the government and will see that feeders don't become trunkline operators, Paul W. Cherington, executive assistant to CAB Chairman Joseph J. O'Connell, told the aviation committee of the New England Council in Boston recently.

Asserting that the fiscal 1950 feeder bill will be close to $15,000,000 and that "most of it must be regarded as subsidy," he said CAB is inclined to continue the experiment as part of its responsibilities for development of air transport "even where they do not pay the full costs of their operations."

He added: "I know of nothing that would halt the local service experiment faster than a broad scale attempt on the part of the feeders to become trunkline operators...The feeders would be entering a highly competitive market with grossly inadequate competitive weapons. What is more, they would be entering the market at the expense of the government. I see no disposition on the part of the present Board to permit the feeders to become trunkline operators."

Expressing the belief that feeder cost can be reduced in the next few years, he said CAB has power to abolish systems showing little or no promise and to alter routes where complete abandonment is not called for. However, in cases where feeders and trunks are providing duplicating service to intermediate-size and smaller route points, CAB thinks it wise to suspend the trunkline. "Tentatively the Board concluded that the feeder...should be selected, partly because it is a specialist

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in this type of operation and can be expected to cultivate whatever traffic there is more assiduously, but also because it probably is the lowest cost operator when it comes to providing local type service."

Aiken Outlines Cautious Approach to Star Routes

Fixed base operators who have ideas concerning good locations for air star routes should get in touch with the nearest air mail field official of the postal transportation service, Second Assistant Postmaster General Paul Aiken said recently, adding a warning that the Post Office will proceed cautiously under the new program.

Speaking before the aviation committee of the New England Council in Boston, Aiken said "today we must see in the small liaison type aircraft an air truck which can give better mail service to communities lacking adequate surface transportation . . . In many instances a small liaison type aircraft may well provide better transportation than surface means, either from a price or speed standpoint . . .

"No great number of air star routes will be established in the immediate future. I will be well satisfied with progress if from one-half to a dozen exist a year from now. I propose to be as careful and as slow as necessary to be absolutely sound. I believe principally the small fixed base operators, flying schools and others operating light aircraft will be our chief source of transportation under this law. I believe that the government will get transportation at reasonable rates because many people have equipment which is not being fully utilized, the use of which on a cost basis alone would greatly add to the soundness of their operations . . .

"We have received a great number of requests for information from aircraft operators and we have received a number of proposals for air star routes. It is to be generally assumed that the people making these proposals have little knowledge of postal requirements. Transportation service alone is of no value to us unless it ties in with existing schedules of surface and air transportation.

"Consequently, the approach I intend to take is to request the field officials of the postal transportation service to make a survey of their respective territories and report to me the need for air star routes in each territory. In making this survey they may wish to consult with local operators. If any local operator is interested in pursuing the subject, I suggest that he contact the nearest official in the postal transportation service who is concerned with air mail."

Principal considerations in establishing star routes will be inadequacy or lack of existing transport, and cost, Aiken said. If it costs more than surface transport, it must provide us with sufficiently greater speed that a slight increase in cost would be justified." Ground mail messenger costs from landing field to post office will also be considered, he indicated.

Aiken also said he saw no reason why helicopters should not be used in the program. "This would alleviate the long and expensive hearings before the Civil Aeronautics Board on matters of route and rate, and on matters in which the . . . Board itself has little or no interest . . . Whenever helicopters can eliminate mail messenger service, they will have that much an advantage in speed and in cost."

CMA Pioneer—George L. Rihl, an organizer of Compania Mexicana de Aviacion and still a director of the 25-year old company at 72, has been awarded the Emilio Garranza Medal, Mexico's highest aeronautical award "for outstanding service in the field of aviation." Aaron Saenz, CMA president is shown making the award on the company's anniversary. When Pan American Airways acquired the Mexican line in 1929, Rihl was made president of CMA and vice president of PAA. Now retired, he is still serving CMA in an advisory capacity.

World Air Travel Increase Expected from Fare Cuts

The devaluation of the British pound sterling and other currencies, coupled with inauguration of winter excursion tariffs, resulted in substantial reductions in air fares to various parts of the world—reductions of almost 30% in some cases. An increase in travel was expected to result.

For example, an air traveler who last month had paid $1,654 for a round-trip from New York to Calcutta discovered that this month he could make the same trip for $1,177.40, or $476.60 cheaper.

Following devaluation, members of the International Air Transport Association met in London to unravel the snarled fare situation. They decided that, for the time being at least, the dollar level would be maintained between the U. S. and European gateway points but that sterling fares would be retained throughout Europe, Middle and Far East, Africa and Australia.

How long this situation will prevail remains to be seen. The IATA traffic conferences meet in Mexico City starting Nov. 8, and fares will be one of the principal items on the agenda.

The London decision meant that New York-London one-way dollar fare remained at $350, but that the London-New York sterling fare was raised from 86 pounds 17 shillings (worth only $243.18 after devaluation) to 125 pounds. Beyond the gateways, however, sterling fares did not rise.

Therefore, the large reduction in New York-Calcutta came about in this way: On Oct. 1 the 60-day round-trip winter excursion fares become effective, which under ordinary conditions would have knocked $168.40 off the $1,654 tariff. Then, devaluated fares beyond the European gateways resulted in an additional $308.20 saving, for a total reduction of $476.60, or 28%.

Other reductions: $429.70, or 28%, was cut off the New York-Karachi normal pre-devaluation round-trip fare of $1,501.20; New York-Prague dropped 26.5% from $772.20 to $567.50; New York-Johannesburg was down 21.5% from $1,512 to $1,183.40. There was no devaluation saving on New York-London, but the winter excursion reduced the round-trip 26% from $630 to $466.70.

Some airline officials looked for a substantial increase in travel as a result of the reduced tariffs. Willis G. Lipscomb, vice president-traffic and sales of Pan American Airways, predicted an increase of more than 50% in travel to Europe this winter.

The opinions of the world's airlines regarding the new rates are expected to be aired at the Mexico City IATA meeting. Some were said to be disturbed over the possibility of reduced revenues, believing that some increase should be made.

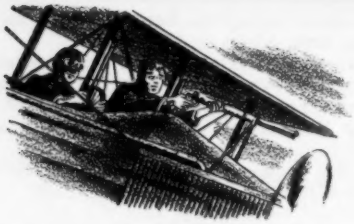
New ICAO Council Officers

The Council of the International Civil Aviation Organization has elected the following officers for one-year terms: Lt. Col. Jean Verhaegen, of Belgium, first vice president; Dr. K. N. E. Bradfield of Australia, second vice president, and Commodore D. A. F. Grassi of Argentina, third vice president. Brigadier C. S. Booth of Canada was elected chairman of the air transport committee, and Adm. Paul Smith of the U. S. was named chairman of the committee on joint support of air navigation facilities.

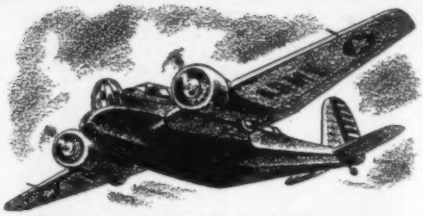
Accident Claims Settled

A settlement of $115,000 has been made by Lloyds of London to satisfy all claims resulting from the Seattle accident of Seattle Air Charter Co.'s DC-3 on January 2.

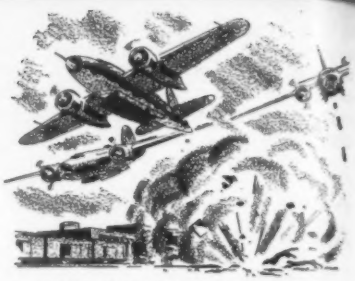
The settlement was made to the estates of the 11 Yale University students killed in the accident and covered damage and injury claims of the 16 survivors. Payments were as high as $26,000 for single claims.



THIS WINCHESTER-ARMED 1913 PURSUIT PLANE WAS ANOTHER MARTIN FIRST! (IN 1918, A 37MM. BALDWIN CANNON WAS MOUNTED EXPERIMENTALLY ON A FAMOUS MARTIN MB BOMBER.)



REVOLUTIONARY B-10 (COLLIER TROPHY) BOMBERS FEATURED THE FIRST ENCLOSED TURRET, A MARTIN DEVELOPMENT.



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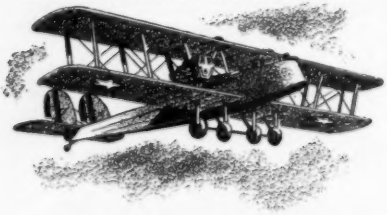
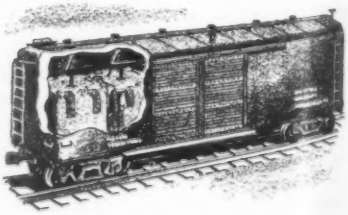
AS LONG AGO AS 1918, MARTIN EXPERIMENTED WITH BULLET-PROOF FUEL TANKS ON THE MB



THEIR SELF-SEALING FEATURE SAVED THE LIVES OF THOUSANDS OF AMERICAN AIRMEN AND HUNDREDS OF PLANES DURING WORLD WAR II



MARENG CELLS HELPED LICK TANK CAR SHORTAGE DURING EARLY MONTHS OF WORLD WAR II BY CARRYING GAS IN BOX CARS.

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Board to Hear Amended PAA-AOA Agreement Oct. 25

The second hearing in the Pan American Overseas Merger Case was set for October 25 at a prehearing conference held recently before CAB Examiner Thomas L. Wrenn. The hearing will consider the amended agreement which, among other things, calls for a cash settlement in lieu of the originally-planned stock transaction.

Among witnesses to be called back to testify on the "public interest aspects" of the amended agreement, are C. R. Smith, president of American Airlines and AOA, Juan T. Trippe, president of PAA, Warren Lee Pierson, chairman of the board of TWA, E. O. Cocke, TWA vice-president of traffic and sales, and R. G. Ferguson, PAA traffic and financial witness.

CAB Opens Trans-Atlantic Air Cargo Service Case

The Civil Aeronautics Board this month began an investigation to determine whether present air cargo service over the North Atlantic is and will continue to be adequate.

Hearings in the U. S.-Europe-Middle East Cargo Service Case opened October 3 before Civil Aeronautics Board Examiner Warren E. Baker. New applicants for certificates to operate all-cargo services over the Atlantic are Seaboard & Western Airlines, which for the past three years has operated a non-scheduled all-freight service to Europe and the Middle East, and Transocean Air Lines, large international contract carrier.

Opposing the applications are the three certificated U. S.-flag lines now flying to Europe—American Overseas Airlines, Pan American Airways and Trans World Airline.

CAB Briefs

CAB has refused a request of **Pan American Airways** to operate non-stop flights between West Coast gateways and points in the Orient for the interim period until the Board issues a final decision on the carrier's proposed permanent certificate amendments. Board said the issues could best be resolved in the certificate cases.

A show cause order which would return **Challenger Airlines** $100,000 additional mail pay for a past period and approximately $921,000 annually for the future has been issued by the Board. A lump sum payment of $1,621,891 is proposed for the period May 3, 1947, through Feb. 28, 1949, inclusive of mail pay already received. Rate for the period beginning March 1, 1949, will yield 62.90c per mile at a forecast 28.38% passenger load factor.

Continental Air Lines has applied for an extension of its Route 60 beyond Kansas City to St. Louis, so as to provide a first direct one-carrier service between Denver and St. Louis. Service over the proposed 229-mile route extension would reduce flight time between Denver and St. Louis from four or five hours to two hours and 45 minutes.

Trans-Texas Airways has received a mail rate show cause order from CAB which would give the airline annual mail compensation of $1,688,000 starting July 1, 1949. The Board also proposed an increase in mail pay for the period Oct. 11, 1947 to June 30, 1949 which would mean an additional lump sum of $233,000.

Trans-Asiatic Airlines (Siam), Ltd., applied to CAB for a route between Bangkok and Los Angeles via Hong Kong, Manila and Honolulu. The airline was designated by the Government of Thailand to operate the route under terms of a 1947 bilateral agreement between the U. S. and Siam.

Northwest Airlines asked CAB to deny a request for temporary exemption which would, if granted, allow **United Airlines** to operate non-stop services between Chicago and the Pacific Northwest. The carrier charged that the exemption would upset the route structure laid out by the board.

Aerovis Peruanas, wholly-owned subsidiary of **Panagra,** and **Cia. de Aviacion Faucett, S. A.,** were denied permission by CAB to transact a stock deal whereby the latter would transfer 20% of its stock to Aerovias Peruanas. Agreement was for Peruanas to suspend all air service in Peru, Panagra to confine itself to international operations, and Faucet to perform only local services in Peru.

Empire Airlines and **Wisconsin Central Airlines** were told by CAB to render flag stop service at any intermediate points on their routes. Action will permit the carriers to omit any stop when no traffic is available. Board said the certificate requirement to stop at all points whether traffic was available or not is a deterrent to optimum operations by these two lines and that it results in unnecessary expense, increased flight hazards, and annoyance to passengers.

CAB CALENDAR

Oct. 17—(Docket 3661) Prehearing conference in Through Service Investigation—Twin Cities-Washington—Detroit-Washington. 10 a. m., Room 2015, Temp. Bldg. 5, Washington, D. C. Examiner William F. Cusick.

Oct. 17—(Docket 3748 et al.) Hearing in Service to Springfield, Massachusetts Case. 10 a. m., Conference Room "C," Departmental Auditorium, Washington, D. C. Examiner Walter W. Bryan. Postponed from Oct. 3.

Oct. 17—(Docket 2719 et al.) Hearing in Air Freight Tariff Agreement Proceeding. 10 a. m., Conference Room "A," Departmental Auditorium, Washington, D. C. Examiner Herbert K. Bryan. Postponed from Sept. 21.

Oct. 17—(Docket 3977) Hearing in Monarch Air Lines-Arizona Airways Merger Case. 10 a. m., Room 2015, Temp. Bldg. 5, Washington. Examiner James Keith. Postponed from tentative date of October 10.

Oct. 24—(Docket 4035) Hearing in Mt. McKinley Airways, Inc. Letter of Registration Revocation Proceeding. Washington. Examiner Richard A. Walsh.

Oct. 24—(Docket 2196 et al) Oral argument before the Board in Service in New England States Case. 10 a. m., Room 5042, Commerce Bldg., Washington.

Oct. 25—(Docket 3589 et al.) Hearing on amended Pan American Airways-American Overseas-American Airlines Merger Agreement. Tentative. Examiner Thomas L. Wrenn.

Oct. 31—(Docket 1705 et al.) Oral argument before the Board in Directional Commodity Rate Investigation. 10 a. m., Room 5042, Commerce Building, Washington.

Nov. 8—(Docket 3943) Hearing in Kessler-Robin Airways, Inc., Robin Airlines, Inc. Control-Interlocking Relationships Case. Tentative. Examiner R. Vernon Radcliffe.

Nov. 14—(Docket 3695) Hearing on application of Florida Airways, Inc. for final mail pay settlement. Tentative. Examiner R. Vernon Radcliffe.

Dec. 5—(Docket 2870 et al.) Hearing on applications of Western Air Lines and Inland Air Lines for Final Mail Rate for a past period. Tentative. Examiner James M. Verner. Postponed from November 14.

Dec. 5—(Docket 946 et al.) Hearing in New York City Area Helicopter Service Case. Tentative. Examiner Ferdinand D. Moran.

Aviation Calendar

Oct. 17—New York State Aviation Council fall meeting, Hotel Syracuse, Syracuse, New York.

Oct. 17-18—New York State Airport Management Conference, Hotel Syracuse, Syracuse, New York.

Oct. 17-21—American Institute of Electrical Engineers annual fall general meeting, Netherlands Plaza Hotel, Cincinnati, Ohio.

Oct. 23-25—CAA Regional Administrators conference, Oklahoma City, Oklahoma.

Oct. 25-27—National Assn. of Travel Officials 9th annual convention, Cosmopolitan Hotel, Denver, Colorado.

Oct. 26-27—CAA Non-Scheduled Flying Advisory Committee meeting, Oklahoma City, Oklahoma.

Oct. 30—Third annual air fair, San Francisco Airport. (Junior Chamber of Commerce auspices.)

Oct. 30-Nov. 2—National Association of State Aviation Officials annual convention, St. Charles Hotel, New Orleans, La.

Nov. 3-4—SAE Fuels and Lubricants meeting, Chase Hotel, St. Louis, Mo.

Nov. 9-10—Aviation Distributors and Manufacturers Ass'n annual meeting, French Lick Springs Hotel, French Lick, Indiana.

Nov. 16-18—National Aviation Trades Association 10th annual convention, Hotel Roosevelt, New Orleans, Louisiana.

Nov. 30—"Aviation Day" luncheon (Chicago Association of Commerce auspices), Sherman Hotel, Chicago, Illinois.

Jan. 9-13—SAE annual meeting and engineering display, Hotel Book-Cadillac, Detroit, Michigan.

Jan. 13-15—18th Annual All American Air Maneuvers, Miami, Florida.

March 6-9—American Road Builders' Assn., annual meeting (including Airport Division meeting), Netherlands Plaza Hotel, Cincinnati, Ohio.

April 10-14—American Society of Tool Engineers exposition, Convention Hall, Philadelphia, Pennsylvania.

April 16-20—American Association of Airport Executives annual meeting, Neil House Hotel, Columbus, Ohio.

April 17-19—SAE aeronautic meeting and aircraft engineering display, Hotel Statler, New York City.

June 4-9—SAE summer meeting, French Lick Springs Hotel, French Lick, Indiana.

June 10-13—National Aeronautic Association 28th annual convention, Hotel Statler, St. Louis, Mo.

International

Nov. 1—ICAO AGA Division meeting, Montreal.

Nov. 8—IATA Traffic Conferences, Mexico City.

Nov. 10—IATA COM Middle East.

Dec. 10—IATA COM European.

Between the Lines

By James J. Haggerty, Jr.

'Relative' Vulnerability

The recent Boeing Seattle case, in which the Air Force decided to build its six-jet B-47 bomber at Boeing's Wichita plant rather than Seattle because of the "relative strategic vulnerability" of the latter city, has touched off the belief that there will be a widespread dislocation of the aircraft industry and that all plants in coastal areas might be moved inland.

Even a Congressman, Rep. Hugh B. Mitchell (D., Wash.), got excited about it and urged that the House Armed Services Committee make a study of "both the implications of and the reason for the promulgation of this policy of strategic retreat."

The fact of the matter is that there is no policy of strategic retreat. The Air Force is not planning to move its plants inland. The Boeing Seattle case is the exception rather than the rule.

The whole fracas started from an unfortunate choice of words by Secretary of the Air Force W. Stuart Symington. In answering a letter to a union leader on the B-47 situation, Symington used the term "relative strategic vulnerability" as the prime reason for the production transfer. This immediately touched off a furore. There were loud screams of anguish from Seattle interests and some even went so far as to claim that the government was leaving Seattle to fend for itself.

Now it is a matter of simple geography that Seattle is *relatively* more vulnerable than Wichita because of the proximity of a certain foreign power presumed to be our enemy. But that does not mean that the Air Force is abandoning Seattle, or any other manufacturing area, as a source of plane production.

Actually, Air Force informants tell us, Seattle's strategic vulnerability was not the prime reason for switching B-47 production to Wichita. It became important only when coupled with the other factors involved.

One reason, and probably the most important, was the fact that production of the B-54, which would have been an advanced version of the B-29, had already been assigned to Seattle, when the question as to where to build the B-47 came up. Obviously it is not good policy to build two major plane types under one roof, because in the event of a successful bombing mission against Boeing Seattle, there would be a production delay in two valuable airplanes instead of one. That is where the *relative* (and our informant emphasized the word) strategic vulnerability comes in.

Another reason was the expansibility program. The Air Force found by experience in World War II that certain areas do not lend themselves readily to expansion because of the labor market. Seattle is such an area—in an emergency the shipbuilding and aluminum industries, among others, would be competing with the aircraft industry for the available labor. While this is not an overly serious problem, it is desirable to build a reservoir of trained aircraft technicians in other parts of the country.

The fact that the Air Force still planned to go ahead with B-54 production at Seattle after the B-47 decision should have been the tip-off that it was not overly worried about the question of vulnerability. (B-54 production was later canceled altogether.) It is also quite possible that the eight-jet B-52, planned successor to the Convair B-36, will be built in Seattle, although no decision has yet been made. The fact that it is even being considered should allay the fears of those concerned with the problem.

* * * * *

There seems to be some question as to whether Russia actually has developed an atomic bomb, despite President Truman's announcement a few weeks ago. This came to light during a recent closed session of the Senate Appropriations Committee at which Secretary of Defense Louis Johnson appeared.

Johnson, during that session, gave members of the committee a dressing down for referring to Russia's possession of an atomic bomb. He reminded them that the President had said only that "an atomic explosion" had occurred in Russia and advised the committee to use the same phrasing.

This was followed by a statement by Adm. William H. Standley, wartime ambassador to Russia, that he was "very skeptical" of reports that Russia has developed the bomb. He said it was possible that they had produced an atomic explosion, but he doubted they had the "know how" to build the bomb.

"They can have an explosion without having the atomic bomb," said the Admiral. He such an explosion might have been an accident, or it might have been a deliberate move to help them in the "cold war" against us.

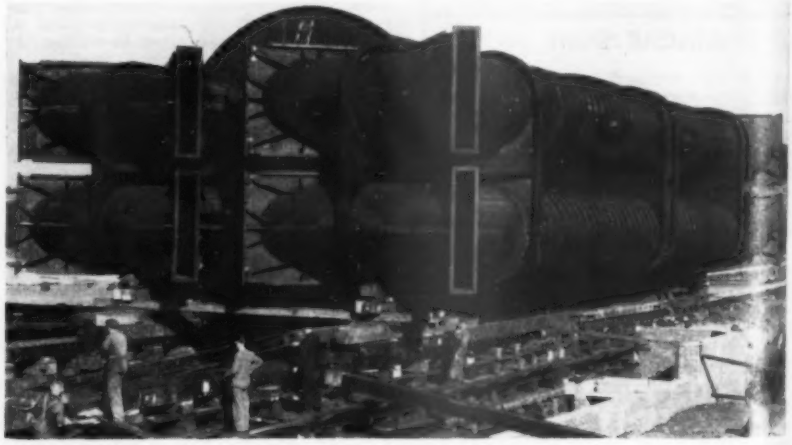
You figure it out.

National Air Council Makes Annual Service Awards

Annual awards of the National Air Council for outstanding achievement in aviation research and experiment by members of the United States Air Force and the Navy air arm have been presented to:

Capt. William Virginius Davis, Jr., USN, for his outstanding contributions to "the science of flight testing, particularly in the establishment of criteria for the test of jet propelled aircraft at extreme altitudes and for the evaluation of helicopters."

Capt. Vincent Mazza, USAF, for his work as special project officer on the ejection seat development, personally testing the seat in laboratory tests and later in the air.



70,000 Feet—Shown above is the stratosphere chamber now in the final stage of construction at the Vickers Armstrong, plant in Weybridge, England. The test chamber, which will take units up to 50 ft. in length and 25 ft. in diameter, simulates altitudes up to 70,000 ft. and temperatures as low as minus 90 degrees F. Primarily designed for use by Vickers, the facility will be rented to other manufacturers when not required for pressurization tests on Vickers equipment. The assembly is now mounted in a separate building where the refrigeration and associated equipment is also housed.

Unification

(*Continued from Page 8*)

crippling the Navy. And, as Adm. Denfeld said, "a Navy stripped of its offensive power is a nation stripped of its offensive power." Johnson and his advisors obviously do not agree—they are complacently confident in the ability of the Air Force and its B-36 bomber to win a war with little or no help.

The Air Force may be right in placing such confidence in intercontinental bombing, and a third war might prove them so. But remember that they are basing the entire defense of this country on an untried theory, the nucleus of which is an untried piece of equipment. And if that theory turns out to be nothing more than a theory it will be too late for "I told you so." Since the policies of the Defense Department are obviously to gradually decrease both the Army and the Navy until the Army becomes an occupation force and the Navy a transportation unit, by the time war comes, if it ever does, we shall have nothing to fall back upon if this questionable theory of intercontinental atomic warfare proves to be a dud.

We believe in the maintenance of an Army and Navy in balance with the Air Force, particularly a strong naval air arm. There is no question of the predominance of air power, but there is a question as to whether it can win a war alone. And remember that the Navy is air power, too—it is not a competitor to the Air Force but a necessary adjunct. We are aware of no recent development in war tactics which has rendered the aircraft carrier, with its mobile striking force, obsolete, whether the next war is fought in an island area such as the Pacific, or against a land mass like that occupied by our only foreseeable enemy, Russia.

Economy in defense is much to be desired, and if the Secretary of Defense can accomplish it and still provide us with an *effective* balanced defense establishment, he is to be commended. But we must put a stop to this policy of indiscriminate "chopping" without regard for the issues involved before it is too late. However painful, the taxpayer can always survive a few extra dollars on his tax bill if the requirements of effective national defense so dictate. He cannot, however, survive the loss of World War III.

10 Years for Helicopters

Sikorsky Aircraft Division of United Aircraft Corp. recently celebrated the 10th anniversary of the initial flight of the VS-300, first successful helicopter in the western hemisphere.

Atlantic Route Map: The Foreign Air Transport Div., Civil Aeronautics Board, has published a map titled "Trans-Atlantic Operations of Scheduled Airlines as of July 1, 1949," showing the frequency of service of U. S. flag carriers compared with foreign flag carriers operating across the North and South Atlantic. Until limited supply is exhausted, copies may be obtained from Publications Section, CAB, Washington 25, D. C.

Production Spotlight

Military Appropriations: The fate of aircraft manufacturers, with regard to the number of military aircraft they will build during the coming year, will probably be settled this week, as House and Senate conferees iron out the final details of the military appropriations bill. And it looks as though it will be good news for builder of Air Force planes.

The conferees met all last week, with the House conferees rejecting two compromise offers: first, an offer of a $200,000,000 restoration of the $806,000,000 the Senate cut out of the House-approved bill, and later an offer of a $400,000,000. The House conferees want restoration of the full amount, and there seems to be an excellent chance that they will get it. The $400,000,000 compromise, however, may be submitted to the House for a vote.

For Navy manufacturers the picture does not look so bright. The Navy will get only what the President's budget asked, enough for the purchase of only 843 planes. But even this might not stand, as it was learned that Defense Secretary Louis Johnson plans to cut the Navy an additional $300,000,000. Rep. Carl Vinson (D., Ga.), chairman of the House Armed Services Committee, however, is taking steps to prevent this additional cut. He is asking for an amendment to the Unification Law which would require the Secretary of Defense to permit the services to spend what Congress appropriates.

First Flights: *Convair's T-29, Air Force navigation trainer, which is a military version of the Convair-Liner, has completed its first flight. . . . The North American T-28, single-engine advanced trainer, also flew successfully for the first time. . . . The Douglas DC-6A Liftmaster, cargo version of the DC-6, became the third new plane to fly for the first time within the past month. . . . Chase Aircraft Co.'s XC-123, Air Force assault transport, was scheduled to be the fourth as flight date was set for this week-end. . . . Meanwhile, the Convair XP5Y-1, Navy turbo-prop flying boat, was being prepared for its first flight as Convair engineers installed Allison T-40 engines in the nacelles and ran ground tests.*

Contracts: **Pratt & Whitney Aircraft Division** of United Aircraft Corp. has received contracts totaling $7,007,851 from the Navy for production quantities of two versions of the P&W R-2800 engine. The Navy ordered 76 R-2800-32W engines at a cost of $2,881,388 and 37 R-2800-44W's for $4,126,463. The -44W is a late version of the R-2800 series and will be used in North American Aviation's AJ-1 attack bomber. The -32W is used in the Chance Vought F4U-5 shipboard fighter . . . **Curtiss-Wright Corp.** received an Air Force contract totaling $1,200,000 for spare parts for Curtiss C-46 Commando twin-engine transports . . . C-W also received an Air Force contract for installing measuring devices on a Lockheed F-80 and a Republic F-84 for a structural flight load study . . . **Solar Aircraft Co.** has received new orders totaling $2,100,000 for afterburners and jet engine parts . . . The Navy awarded **Hamilton Standard Division** of United Aircraft Corp. a contract worth $100,082 for 54 propeller blade assemblies.

AF Facility Projects: *An item of $11,330,000 for machine tools, equipment, production planning, etc., for production of the Boeing B-47 jet bomber at Wichita headed the list of Air Force facilities expenditures for the fiscal year 1949. Second largest item was $11,000,000 for preparing General Electric Co.'s Lockland, O., plant for assembly of the J-47 jet engine. Also included was $4,900,000 for setting up GE's Johnson City, N. Y., plant for production of aircraft fire control systems. Other large facilities expenditures were: A C Spark Plug Division of General Motors Corp., $7,743,000; North American Aviation, $3,300,000; Boeing Airplane Co. (Seattle), $3,150,000; forge plant, Madison, Wis., $3,000,000; Douglas Aircraft Co., $2,860,000;Emerson Electric Co., $2,470,000; Northrop Aircraft, Inc., $2,100,000.*

New Designs: **Douglas Aircraft Co.** has worked up a four-jet transport design, featuring a DC-6-type fuselage with jet pods, two engines to a pod, slung under the wing midsections. Wings, fin and rudder are swept back and the empennage is elevated . . . **Convair** has worked up a proposal for a new heavy transport, a modified version of its giant XC-99. The new model would be a competitor to Douglas C-124, since the new design involves fuselage changes to permit loading of heavier equipment than the "X" model could handle.

—J. J. H.

ADMINISTRATIVE

Ralph W. Starkey, veteran air cargo executive, has joined U. S. Airlines, Inc., as executive vice president and general manager. Cargo sales manager for Eastern Air Lines for the past several years, he had served before that with Capital Airlines and TACA Airways. He was with the Air Express Division of the Railway Express Agency for a number of years before the war, his last position being eastern regional manager of air express.

Richard A. Dick has resigned as vice president-sales of Western Air Lines to devote his time to personal business and to further development of Sales Unlimited, a western states sales corporation. He joined WAL in 1940 and became a vice president in 1946.

Alfred L. McCarthy, Miami attorney, has been added to National Airlines' board of directors, which has been increased from 10 to 11 members by recent vote of the stockholders.

Oswald A. Byrne has been promoted from director of sales to assistant to the president of Challenger Air Lines.

Richard W. Evans, former member of the Civil Aeronautics Board staff and before that aviation editor for the Commerce Clearing House, has joined the legal staff of United Air Lines.

Salviano R. Herrera has been appointed director of North American operations for Flota Aerea Mercante Argentina, the Argentine airline. He is a retired lieutenant colonel in the Argentine army.

OPERATIONS-MAINTENANCE

Leslie A. Watson, superintendent of communications for Piedmont Airlines, has been chosen as a member of the Airlines Electronic Engineering Committee of Aeronautical Radio, Inc.

Cecil F. Dicks, former assistant station manager for Pan American Airways at Port-au-Prince, Haiti, has been promoted to station manager at St. Lucia, British West Indies.

William A. del Valle, Pan American Airways resident engineer at the Boeing Airplane Company's Seattle plant, and **George Nash,** chief inspector for PAA at the same plant, were awarded 20-year service pins last month.

Francis Dee Flori has been promoted from lead agent to station manager for Robinson Airlines at Ithaca, replacing

Ralph B. St. Denny, who resigned. Flori joined Robinson 13 months ago after serving as assistant station manager for Monarch Air Lines at Gallup, N. M.

Ralph W. Starkey
Joins U. S. Airlines

R. R. Allison has been appointed station manager for Wisconsin Central Airlines at Chicago, replacing **C. E. Liske,** who was promoted to district traffic manager.

Paul Nygren, former station manager for Wisconsin Central Airlines at Brainerd, Minn., has been appointed station manager at Minneapolis. He succeeds **R. G. Cooper,** who has been appointed district traffic manager for the line's northern region, with offices in Minneapolis-St. Paul.

Victor W. Heinitz, formerly station agent for Western Air Lines at Great Falls, has been named station manager at Yuma, replacing **Max E. Whitey,** who has been transferred to a similar position at Cedar City, Utah.

Fred Spuhler has returned from temporary assignment with Trans World Airline's sales training program to the cargo sales department as assistant to **Bud Russ,** department manager. The training program is being continued under the direction of **Les Hesselgesser.**

Jeanne Harriet Busch has been named acting chief stewardess for Colonial Airlines.

TRAFFIC & SALES

L. C. Wisenauer has been named National Airlines district cargo manager for Louisiana and south Florida, and **Edward J. Wilk** becomes manager of the central cargo district from northern Florida to North Carolina.

Harlow Chamberlain has been appointed district traffic manager for Wisconsin Central Airlines in Madison, covering the central region.

William L. Griffith has been promoted from employment manager to superintendent of passenger service for Eastern Air Lines, succeeding **John T. Stickney,** who resigned to enter business in Cleveland.

William B. Caldwell, Jr., head of National Airlines' research and statistical departments since 1945 and for the past two years also manager of tariffs, has been advanced to manager of tariffs and schedules. **John N. Westfall,** research assistant for National for the past year, has been appointed research analyst succeeding Caldwell.

Robert T. Broody, special traffic agent for American Airlines, has been made district agency representative for Philadelphia and the Pennsylvania territory, replacing John S. Shirk, recently promoted to sales manager in Albany.

Robert V. Woodworth, formerly administrative assistant to the executive vice president of The Flying Tiger Line, has been named manager of interline and agency sales.

Gilbert

Richard W. Gilbert, formerly general manager and director of sales for Willis Air Service and before that assistant to American Airlines' director of cargo sales, has been appointed air cargo sales manager for Eastern Air Lines.

MANUFACTURING

Joseph J. Mehl, until recently assistant secretary and assistant comptroller of the Fairchild Engine and Airplane Corporation, has been retained on a temporary assignment by Alvin P. Adams and Associates, New York aviation consultants.

John V. Naish, formerly factory manager for Northrop Aircraft at Hawthorne, Calif., has joined Consolidated Vultee Aircraft Corporation as director of contracts for the corporation and manager of contracts for the San Diego division. He succeeds **R. L. Mussen,** who has left Convair.

O. A. Berthiaume has been appointed as works manager in charge of the production department of the Fairchild Aircraft Division plant at Hagerstown. He joined Fairchild two years ago as superintendent of the sheet metal and machine shops, and before that was with North American Aviation and Texas Engineering and Manufacturing Corporation.

Others in the News

R. A. Draper has resigned as information director of the International Civil Aviation Organization in Montreal to start his own advertising and public relations business.

William G. Key, assistant director of public relations for the Aircraft Industries Association for the past four years, will leave AIA November 1 to become vice president of Lincoln Press, Inc., of Washington, a publisher's service now engaged in publishing the *Aircraft Yearbook* and *Pegasus*, company publication of the Fairchild Engine and Airplane Corporation. Key will be associated with **Fred Hamlin,** former director of CAA's information service.

Joseph K. McLaughlin, for the past two years retained as attorney-adviser with the Civil Aeronautics Administration's Third Region, has been appointed director of the Illinois Department of Aeronautics to succeed **Robert Dewey,** who resigned in July. McLaughlin has been a flier since 1931 and holds a commercial pilot certificate with single and multi-engine ratings.

Harold J. Roig, former president and now a director of Pan American-Grace Airways, and **Douglas Campbell,** vice president and general manager of the airline, have been decorated with the Order of the Sun, degree of Commander, by the Peruvian government in recognition of the valuable contribution Panagra has made in fostering better relations between Peru and the U. S. during the past 21 years. The decoration also is to be presented to **Harold R. Harris,** former vice president of Panagra and now vice president and general manager of American Overseas Airlines.

Approves Stock Increase

Stockholders of National Airlines, at their last regular meeting, approved an increase of 600,000 shares in the corporation's capital stock.

The additional stock will be used to cover options held by Pan American Airways and W. R. Grace and Co. for the purchase of NAL securities as part of the interchange agreements proposed by the carriers. The agreements are subject to approval by the Civil Aeronautics Board.

New ICAO Standards

The set of ICAO standards dealing with airworthiness of aircraft has now come into effect. Purpose of these standards is to provide uniform conditions of operations within all member states and improve safety and efficiency of operation. Nine sets of ICAO standards are now in operation.

Airline Commentary

By ERIC BRAMLEY

SEEMS LIKE the U. S. ain't the only place where a military pilot has been known to make a pass at a transport plane, only this story has a slightly different twist. One of Trans Australia Airlines' Convairs was flying along minding its own business when suddenly a Royal Australian Air Force fighter appeared and flew wingtip-to-wingtip for about half a minute. TAA screamed to the Civil Aviation Dept. which in turn put the RAAF on the spot for an explanation. Everybody was slightly red-faced when the pilot of the fighter turned out to be one of TAA's very own co-pilots doing some reserve flying. The pilot got himself suspended, and TAA (showing admirable restraint) described the whole thing as "somewhat disconcerting."

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Some time ago we reported the incident of the All American Airways' flight that had a lengthy delay in Washington. The pilot made a big hit with his passengers by taking them on a complete tour of Washington Airport until the plane was ready. Bob Love, AAA president, now tells us that another flight was delayed recently and the pilot, having learned a lesson from his colleague, conducted a similar tour. Less than halfway through the tour, however, an AAA agent appeared to announce that the plane was ready for departure. To a man the passengers decided that the tour should be completed and the heck with the departure. So it was completed and the trip went on its way. Sounds like maybe AAA should make this a feature of all Washington stops.

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Definition (lifted from *Indiana Skyways*, published in India): An airline is a thing everybody wants to own and nobody bothers to study.

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We got a big bang out of a recent CAB list that showed all types of industrial and agricultural activities in which airplanes are used. There's everything from crop dusting to highway patrol to eagle hunting. But we got the biggest chuckle out of the "miscellaneous" category which, among other things, included: "chasing birds from rice fields"; "agitating cherry trees to shake off water after rain"; "rodent control"; "landing Santa Claus in helicopters," and "transportation of artificial insemination." If you can use flying machines for all these things (agitating cherry trees appeals to us) we're convinced, despite rumors to the contrary, that aviation is here to stay.

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There's a statement in *Flagship News*, American Airlines' publication, that's worth remembering: "After a long period without serious trouble we drift away from certain basic elements of good business." With things going smoothly, C. R. Smith, AA president, wanted to make sure that the operations and sales departments didn't forget these elements, so he listed them in a memo: "(1) safety, (2) cleanliness—clean airplanes, clean hangars, clean waiting rooms, clean uniforms, office machines, desks and offices, (3) courtesy—more than the polite answer, the thoughfulness that passengers write about, courtesy within the organization, (4) accuracy—accurate flight information for passengers (we still muff this one), *facts* upon which to act, accurate records including reservations, (5) promptness—on time departures, prompt answers to all inquiries, promptness on the job, (6) economy." That's a good memo to frame and hang on the wall.

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On the subject of airline charter flights, it was amusing to read the sports page of a Norfolk newspaper recently. There was a big picture of the William and Mary football team arriving in Houston via Capital Airlines after a six-and-a-half-hour non-stop flight from Richmond. On the same page was a story under the headline, "Train Wreck Delays Villanova in Texas." Seems that Villanova had decided on the long train ride from Pennsylvania to Texas. The team arrived in time for the game, but a five-hour delay never helps. We were amused because some football coaches have insisted they can't take a chance on air transportation because they might be delayed en route.

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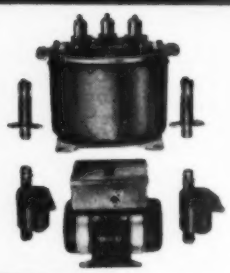

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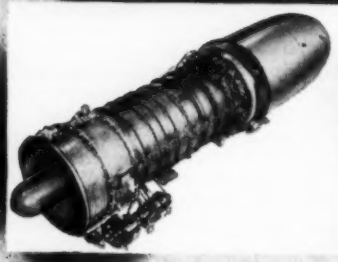

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More Detail Planning Needed for SC-31 Program

By William D. Perreault

The coming year will see the emphasis in air traffic control and navigation progress placed on systems rather than components, according to the trend in the recent general assembly meeting of the Radio Technical Commission for Aeronautics in Washington. While many general expressions of this need were voiced, ATA's director of Air Navigation and Traffic Control, Sam Saint, was the most forceful in his recommendations.

Saint urged that a "properly constituted body" be formed "to narrow down the SC-31 requirements—to put in the operational tolerances, to decide exactly what information will be transmitted where and how often to decide what information will be placed in front of the controllers and in what form, and how they will use it."

"We are all set to unleash millions of dollars and a large pool of manpower in development of a system," said Saint, "but we have not yet specified in detail what this system is to do and how it is to operate."

This did not constitute a criticism of the RTCA SC-31 recommendations. Both as an individual and as a spokeman for ATA, Saint emphasized the complete respect held for the SC-31 report and the vital role which it played, and will continue to play, in the progress of these sciences. But, the SC-31 recommendations are intentionally broad, a product of the "state of the art" during its compilation. Key characteristics such as rigid or flexible traffic control, delegation of dispatch control, etc., have not been tied down.

Flexible vs. Rigid. It was evident that ATA was concerned over underlying developments within unidentified circles that would ultimately become part of any traffic control system and which would not be compatible with airline operations. In the development of the common system we can have either flexible or rigid control. Rigid control is an "operational straightjacket" said Saint. Only the flexible system would be operationally practical.

What did Saint mean by rigid control? In discussions he explained that in Berlin the Vittles Operation worked within this straightjacket. While admiring the accomplishments of the Vittles operation, Saint pointed out that even with the optimum control exercised by MATS, this system was difficult to handle. In handling the mixed commercial and military, executive and personal planes across the nation, this system just wouldn't work. Last minute changes in flight plans must be accommodated by any common system development.

Another cure-all seemed to be promised by assignment of dispatch authority to the traffic control agency. Saint identified dispatch control as the authority to originate, cancel or divert traffic into a control area. This authority must be maintained in the pilot and operator, not the control agency. In addition to being administratively impossible, dispatch control in the control agency would "destroy the incentive to efficient control" by making it possible for this agency to alter schedules to fit the limitations of the system and the personnel operating it.

Gets Backing. Assignment of dispatch authority to a traffic control agency is not a far-fetched fear. In urging that a working group of key personnel be formed to shape up the common system without further delay, Saint received the immediate backing of a sizeable part of the RTCA assembly. Specific action in this field can be expected in the near future.

While Saint's views on finalizing of common system details were his principal objective, his contention that "A real solution to the future traffic control problem is closer than is generally supposed" was also important. The ATA representative urged that "the same principles of control apply equally to the present, the transition period, and the long-term future; . . . to military, commercial and private flying and to jet and propeller-driven airplanes" as well.

CAA's activity in development of low frequency omni-range equipment was described to the RTCA by CAA Director of Federal Airways, Charles Horne, who also presented his report as chairman of the ACC/NAV panel. Horne stated that one low frequency omni-range installation has been completed at Nantucket, others are nearing completion at San Francisco and Honolulu and CAA has a program planned for proving the equipment. This program consists of loaning a number of sets of flight equipment (supplied by various manufacturers) to the operators flying these routes and permitting operational testing. Results would not be known for about six months.

To Establish Centers. In order to provide the ANDB with factual knowledge regarding operational requirements of the future traffic control and navigational aids, this group has decided to establish two centers to gather suitable information. Reporting in lieu of Dr. Douglas Ewing, ANDB's director of development, Wesley Leas, an ANDB engineer, reported that a Terminal Aid Center will be formed to obtain traffic control data and a Navigation Aids Center will work on parallel lines in meeting navigation requirements.

Leas reviewed the three contracts which ANDB has already let to industry research agencies for furthering its work. The first of these was a study contract that went to Cornell Aeronautical Laboratory for evaluation of Airport Time Utilization Equipment, on which Leas said reports would be available in a few weeks. The second, also previously announced, provides for the design of a Traffic Control Simulator by Franklin Institute. Finally, the ANDB has released another contract to Cornell to predict the aircraft characteristics which are apt to exist 10 to 15 years from now when the common system of navigation is in use. Purpose of this contract is to assure that present day planning will not be based on unrealistic operational requirements.

During the course of the general session, Dr. J. H. Dellinger was unanimously reelected to the chairmanship of the Radio Technical Commission for Aeronautics. Other speakers on the RTCA program were: Dr. Clifford P. Seitz, of the Navy Special Devices Center at Sands Point, L. I.; Commander L. S. Beals, medical consultant of the Research and Development Division of the Special Devices Center; and Col. John F. Taylor, chief, All Weather Flying Division, AMC.

Disposable Mask—An inexpensive, disposable constant-flow oxygen mask has been developed jointly by the Air Materiel Command's Aero Medical Laboratory and the H. L. Burns Co., Portland, Ore. Developed at the suggestions of commercial airlines and the Military Air Transport Service, the mask has a porous paper face piece and a pliofilm bellows. It will cost about 25c in mass production quantities.

Grand Central Airport Co. at Glendale, Calif., is overhauling five DC-3's for Aerovias Reforma of Mexico.

Viscount Gets Certificate After Year of Test Flying

Unlike the other three turbo-prop powered transports now flying, and the two turbo-jet transports, the Vickers Viscount is now certificated by the British counterpart of the CAA, the Air Registration Board. This certification reflects the year of operational tests which the Viscount has accumulated since its first showing at the SBAC show in 1948. These factors, the certification and proven performance, combine with existing orders for 32 aircraft to give the Viscount an insured future.

It shouldn't be assumed that all the problems are solved. They aren't. The certificate of airworthiness was granted while the aircraft pressurization system is still unproved and with less than an hour of night flights to the plane's credit. The existing model is not the version that will be produced. The production model 700, scheduled for delivery to British European Airways and British Overseas Airways, will have increased length, greater wing spread, higher engine power and more speed than the prototype ship.

But the Viscount has proved itself beyond all expectations. In the year of operational experience there has never been an instance in which the airplane was delayed due to mechanical difficulties which did not exist when the engines were shut down on the previous flight. This type of trouble is one of the biggest factors in mechanical delays which now plague the world's airlines.

Conventional Design. Except for the extreme overhang of the Rolls-Royce Dart engines, about eight ft. forward of the wing, and the 15 degrees dihedral in the horizontal stabilizers, the Viscount is a very conventional-looking airplane. With a wing span of 94 ft., length of 81 ft., 2 in., and height of 26 ft., 9 in., the Viscount's gross weight is 48,000 lbs. Maximum landing weight is 45,500 lbs. The undercarriage features dual wheels on both main and nose gears.

Vickers is offering four versions of the Viscount. Three of these, the 40, 40C and 53, are primarily distinguished by their seating arrangements and cargo compartments. The last is the long range version of the Viscount which has 1800 imperial gallons (1.2 U. S. gallons per imperial gallon) instead of 1400 and a gross take-off weight of 50,000 lbs., 2,000 lbs. above the basic airplane's weight. Any of the versions can be equipped for this additional range capacity.

Since interior arrangement is a matter of operator choice, and even British European Airways, the first airline to order Viscounts had not decided on final arrangements for their ships as late as last month, a minimum of detail will be devoted to interior arrangement. Cabin length is 38 ft. with a width of 10 ft. and height of 6 ft., 4 in.

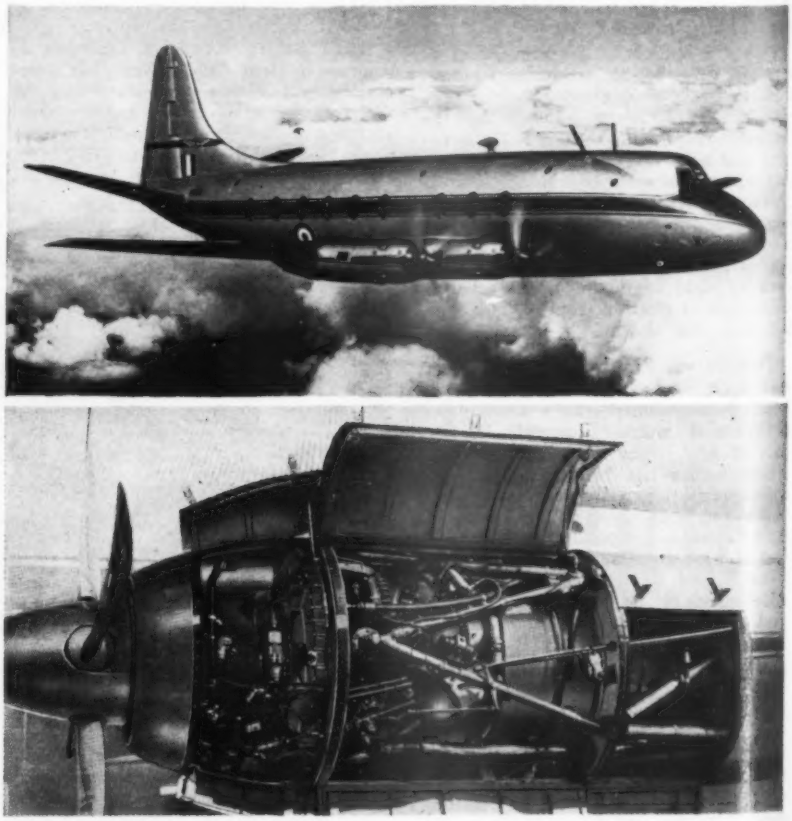
Cabin Arrangement. In the model 40 and 40C the cabin is arranged in two sections (saloons) in order to break up the tubular effect of the long cabin. In the 40 a yard-wide galley is located in the center of the cabin forming the bulkhead between the forward and rear compartments while in the 40C an ordinary bulkhead is used here and the galley is moved into the area forward of the cabin. In the 40, provisions are made for a three-man crew including a radio operator and it is this space in the two-man crewed 40C used for additional cargo and galley space.

In both of these models, the basic seat arrangement provides double seats located on each side of the center aisle but the last four seats in the 40 are on the right side of the cabin aisle. These differences account for a rear cargo compartment in the 40C which provides for 237 cu. ft. additional storage space.

Special Features. Other cabin features: 3-ft. folding tables between the opposing seats in the front two rows of each cabin section; individual folding tables in the back of each seat which open for meal servings, etc.; 20 large elliptical windows, every window and emergency exit with a single control operating two windows (either from the inside or outside); an optional, electrically-operated elevator from the galley to the fuselage exterior.

The model 53 features nine rows of five seats each with an off-center aisle (three seats on the right). The rearmost eight seats are arranged with two seats on either side of the aisle. The galley, lavatory and one cargo compartment in this model are located at the rear of the single-section cabin.

The Engines. In the production model Viscount, the Rolls-Royce Dart turbo-prop engines will be rated at 1,400 shaft hp. and provide 295 lbs. jet thrust. This will call for 14,500 rpm from the engine. The Dart uses a two-stage centrifugal compressor, seven combustion chambers and a two-stage turbine. Its diameter is 38.5 inches, length 94



WITH A YEAR of operational experience already to its credit, the Vickers Viscount, promises to be the first of the turbine-powered airplanes to be placed in commercial service. Powered by four Rolls-Royce Dart engines rated at 1400 hp., the Vickers model 700 is expected to cruise at 328 mph within a maximum range of 1800 miles.

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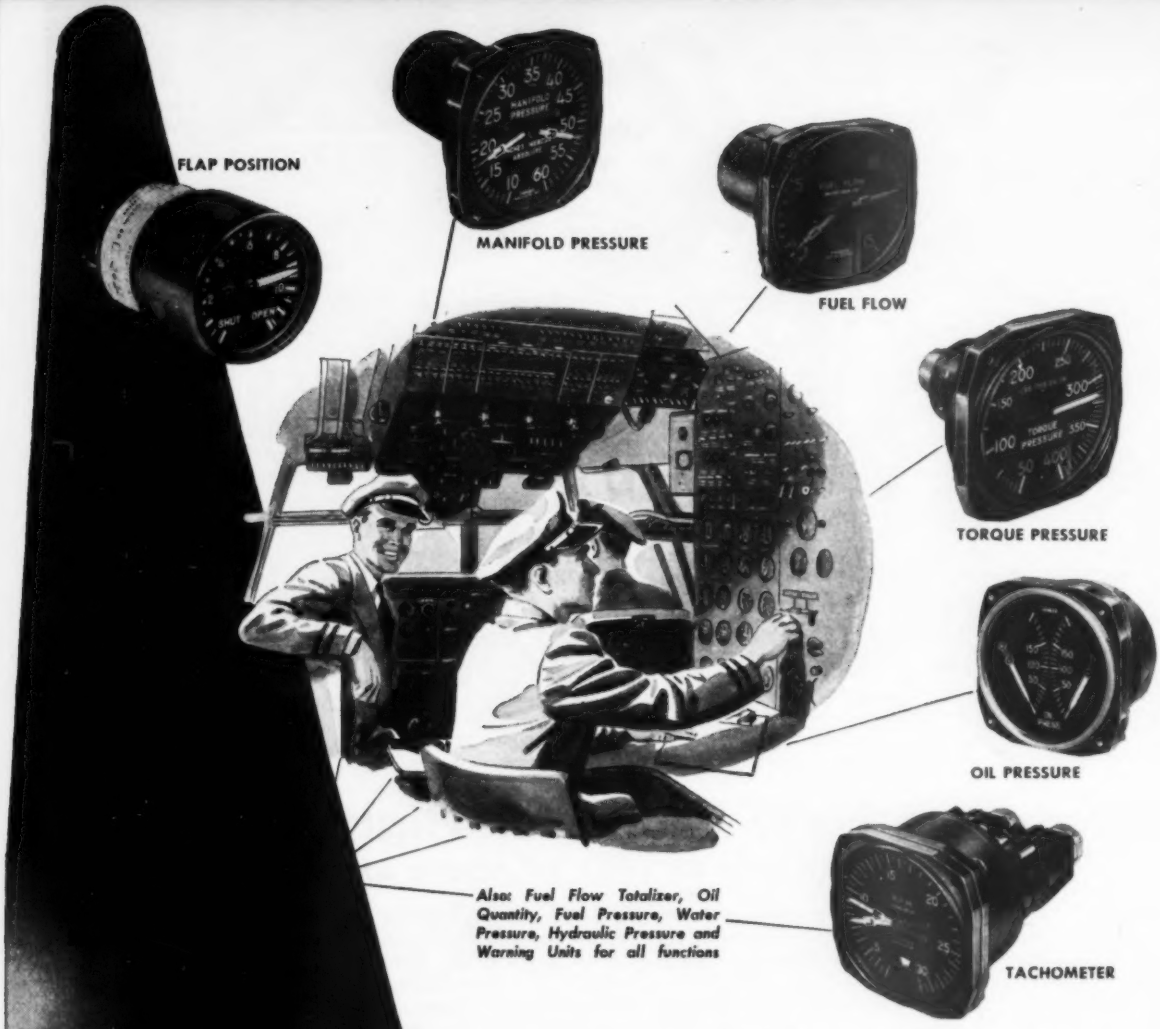
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inches and weight without propeller 850 lbs. Fuel consumption is .87 lbs./hp/hr.

Rolls-Royce and British European Airways are confident that they will be getting 500 hr. overhaul periods on the Dart when the airplane goes in service and that this will be increased rapidly as service experience accumulates. Overhaul costs is estimated at 40% less than parallel piston engine overhaul. Costs will be slightly high at the start until technological improvements enable replacement parts for the jet turbine engines to be produced more reasonably.

The Dart is one of the engines which will be offered to the airlines to bring DC-3 operation within ICAO requirements. If an operator of Viscounts should go along with the DC-3 proposal it would provide a single standard of engines for both aircraft types with resultant savings.

Economics. In the Viscount this combination of airframe and powerplant provides some interesting operational figures. With an empty weight varying from 30,500 lbs. for the 40C to 31,250 for the 53, weight of fuel and payload ranges from 16,150 for the 53 to 16,855 lbs. for the 40C. Vickers figures 20 gallons allowance for starting and taxiing, 261 gallons for climb to 25,000 ft. altitude and descent and a cruising fuel consumption for the airplane of 268 U. S. gallons per hour.

Economically speaking, this means that the Viscount will operate within a 500-mile range at 17c per short-ton mile and 1¾c per passenger mile at 316 mph. At 800 miles range the ton-mile cost goes to 19c and passenger-mile goes to 2c, while at 900 miles range the ton-mile is 21½c and passenger-mile is less than 2¼c.

Cargo Provisions. To enable maximum use of the passenger and cargo loads, the model 40 Viscount has 227 cu. ft. cargo and baggage capacity, the 53 has 410 cu. ft. capacity and the 40C 527 cu. ft. Both the forward and rear fuselage doors are 4 ft., 7 in. wide and shaped elliptically. Height of the forward door is 5 ft., 2 in. and the rear door 5 ft., 6 in. The frames of the main doors house an inflatable rubber seal which is automatically inflated when the doors are closed.

Simple Cockpit. In addition to cockpit arrangements providing for a two-man crew in the 40C and three-man crew in the 40 and 53, the flight deck is generally designed for operational flexibility. No operating panels are located overhead as in most American transports. The majority of instruments are incorporated on the vertical main instrument panel supplemented by several units on an angled panel slanting rearward from the foot of the main panel. Canted consoles on each side of the cockpit between the pilots seats and fuselage are used for numerous electrical controls.

The turbo-prop control simplicity cleans up the pedestal, leaving a minimum of miscellaneous controls. Primary flight controls use spring tabs to minimize operating loads. The control column is located forward of the instrument panel with a horizontal tube carrying the movements from the wheel through the panel. This provides more freedom of movement in the cockpit. Arrangements are provided for the co-pilot to disengage and move his control wheel out of the way to facilitate use of maps, etc.

Dual controls for the nose-wheel steering system are provided. Brakes are pneumatic with both hand- and foot-operated controls.

As in its earlier transports, Vickers uses push-pull rods almost exclusively instead of control cables. The only cables are provided in the control trimming systems and these are temperature compensated. In the tubular controls, changes of direction are accomplished by bellcranks.

Fuel System. Vickers purposely avoids the use of cables, integral fuel tanks and combustion heaters. Fuel in the 1400 gallon system is carried in five interconnected, collapsible, crash-proof tanks located between the spars on each side of the aircraft. These tanks are interconnected by a cross-feed manifold and appropriate controls. Electrically-driven fuel booster pumps are used in the low pressure system supplying fuel to the engine where a plunger type, engine-driven pump keeps pressure between 40 lbs. at idling and 800 psi at maximum power.

The tricycle landing gear is electrically operated by pedestal-mounted controls as are the double-slotted, trailing-edge wing flaps.

Heating, Deicing, Pressurization. Pressurization providing 8,000-ft. pressure altitude in the cabin and cockpit at 30,000-ft. altitude is provided by three engine-driven blowers. Heat generated by this system is used to control cabin temperatures. When cooling is necessary, this is provided by routing the pressurizing air through an intercooler and if necessary through a turbo-expander refrigerator. Temperature is automatically controlled by cabin selection. A blower is provided for ventilating on the ground.

For surface deicing of the wing and empennage assemblies, air drawn in by scoops on the nacelles is used to bleed small portions of exhaust gases from the engine jet pipes through temperature-controlling elements. The outboard engines supply heated air for the wing and the inboard engines are used for deicing the empennage. Automatic controls insure wing deicing in the event of an outboard engine failure by directing the inboard engine gases to the wing.

Vickers Viscount Model 700

Wing span	94 ft.
Length	81 ft., 2 in.
Height	26 ft., 9 in.
Gross t. o. weight	48,000 lbs.
Maximum landing weight	45,500 lbs.
Empty weight	30,800 lbs.
Powerplants	Rolls-Royce Darts
Power rating	1400 hp. plus 295 lbs. thr.
Propellers	Four-bladed Rotols
Fuel capacity	1400-1800 gals. (imp.)
Cruising altitude	25,000 ft.
Cruising speed	328 mph

Lockheed Aircraft Service Buys Willis-Rose Facilities

The facilities and contracts of Willis-Rose Corp. at New York International Airport have been taken over by Lockheed Aircraft Service. Lockheed, authorized service organization for the Boeing Stratocruiser, Convair Liner and Lockheed Constellation, purchased the entire stock of the Willis-Rose Corp. and made the officers of LAS parallel executives at Willis-Rose.

Under this arrangement, J. Kenneth Hull is president; Marc Worst, vice president and B. A. Forrest, secretary-treasurer. The group is now working with the Port of New York Authority formulating plans for building permanent hangars to supplement the existing facilities. These facilities will include nose hangars.

CAA Ups Overhaul Periods On Convair Pressurization

Western Air Lines has been granted CAA approval of 1,000-hour overhaul periods on the hydraulic-driven compressors used in the pressurization system of the Convair Liners. Continental Air Lines is expected to receive similar approval in the near future.

As a result of improved performance, pressurization equipment at Western is now operating 95% of the time and costs have dropped to a point where they are no longer considered a major cost item, no record being kept of operating cost.

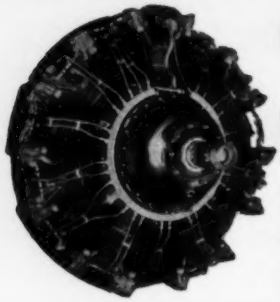
At Continental Air Lines, operating costs on this system have dropped from $15 an hour to $3. During August four of Continental's Convairs operated with pressurization 100% of the time. In this same period the fleet averaged 99.8% pressurized operation. Using the Vickers-AiResearch supercharger installation, the fleet has operated pressurized 91.4% of the time since May of this year.

Capital to Use Wrights

Wright Aeronautical Corp. has announced that first shipment of the higher powered R-1820 engine for use in Capital Airline's Super DC-3's will be made in January. An improved design of the same 9 cylinder engine originally chosen to power the Douglas DC-3's in 1931, the new model will develop 1475 horsepower for takeoff.

PRATT & WHITNEY ENGINES

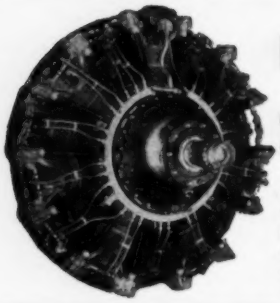
The Pratt & Whitney Engines illustrated here are offered "subject to prior sale," packed and inhibited for indeterminate long time storage, complete with records backed by a world wide organization with more than twenty years of experience.



R1830-92

150

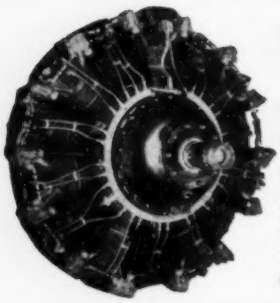
MAJOR OVERHAULED to meet AIR CARRIER requirements by approved PRATT & WHITNEY Agency; low time first run, known history; each $2995.00



R1830-92

250

Converted from low time (average total 50 hours) Pratt & Whitney R1830-43 or -45 by approved Pratt & Whitney agency, block tested, warranted; each $2675.00



R1830-43-65

(Converted to 1830-92)

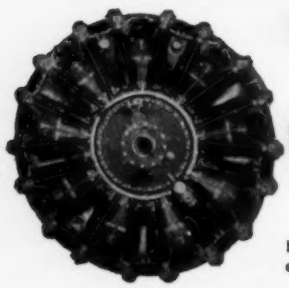
250

MAJOR OVERHAUL (military) first run (average total time 300:00 hours) with zero time since conversion to R1830-92 specification by recognized agency, block tested C.A.A. Form 337, warranted; each $2000.00

R985-AN-1, AN-3

250

MAJOR OVERHAULED by P & W approved agency. $1950.00



R1340 -AN1

100 NEW

NEW (unused) P & W Engines, each $3750.00

ALSO AVAILABLE

P & W R2800-79, -77, -75, -65, -59, -57, -43, -31, -21
P & W R1830-92, -90C, -90D, -65, -43
P & W R985-50, -25, AN14, AN12, AN6
Wright R2600-29, -13, -8
Wright R1820-87, -60, -50, -42, -40
Lycoming—Jacobs—Ranger—Continental

Our inventory P & W parts at Government acquisition cost . . $30,000,000.00
P & W, Wright, Allison and Packard tools $2,500,000.00

All prices quoted f.o.b. Glendale, California

AIRCRAFT AVAILABLE

Beechcraft D-18s, AT-11, D-17s
Consolidated PBYs and PBY-5As
Curtiss C-46s
Douglas C-47s, C-54s, A-26Bs
Lockheed Lodestars & Electras, Grumman, Boeing 247-D, etc.

AIRFRAME SPARES

$1,000,000.00 War Assets Inventory
New C-47, DC-3, C-54 spares; write for catalog
Other spares for AT-6, B-25, PT-26, C-46, PBY-5A Lodestars, etc.
Engines, propellers, electrical, hardware

U. S. EXPORT LICENSE NO. 124

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HOLLAND OFFICE: 453 Heerengracht, Amsterdam, Holland
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HONOLULU OFFICE: Box 215, Kaneohe, Oahu, T. H.

ATA Mechanics Committee To Plan Training Program

With the pool of war-time trained mechanics rapidly drying up, the Airlines Mechanics Committee of the Air Transport Association has met with representatives of 26 aviation technical schools to formulate new standards in training to meet the airline needs.

The schools will make a study of their present programs with a view toward providing (1) additional attention to determine a student's primary interest and mechanical aptitude; (2) grounding in fundamental sciences, especially physics and electricity, so as to qualify students on present-day complex transport aircraft; (3) additional emphasis on developing basic mechanical skills involving thorough knowledge and ability to efficiently use all standard types of hand and small power tools common to airline maintenance; and (4) increase training in fundamentals of safety.

To expedite the proposed program, a working committee of school representatives has been formed including W. M. Hartung, Academy of Aeronautics; T. B. Lyons, Pittsburgh Institute; H. N. Carlson, New England Aircraft; and H. Copeland of Embry-Riddle Co. This group will make recommendations for revising the present-day training to another committee made up of M. W. Balfour, Spartan School of Aero.; C. S. Jones, Academy of Aeronautics; Oliver Parks, Parks College; K. Burroughs, Aeronautical University; J. L. McKinley, Northrop Aero. Institute; C. C. Moseley, Cal-Aero; and H. Copeland, Embry-Riddle Co.

The final proposals of the school group will be presented to the ATA committee at some future date, probably following the 1950 ATA engineering and maintenance conference in Kansas City.

Northwest Expanding Bases To Handle Stratocruisers

Two expansion projects designed to facilitate the operation and maintenance of Northwest Airlines' Boeing Stratocruisers have been started at two bases. Cost of the two projects will be more than $1,000,000.

Three steel hangars, together with related facilities, are being erected at Wold-Chamberlain Field, Minneapolis-St. Paul, to provide a service base for maintenance and storage of the new aircraft. Two of the hangars are to be completed by the end of this year, and the other by next March.

The other project includes the provision of 72,000 square feet of concrete apron complete with servicing facilities, and the 85-foot extension to the side of the present NWA hangar at Seattle-Tacoma International Airport. Work has been started on the apron project, and the hangar construction will start in the spring.

New Antenna—This is the new diapole antenna developed by National Aeronautical Corp. Featuring a mast and pedestal of cast aluminum, the antennae rods are made of selected tapered, stainless steel rods which NARCO tests indicate have the best resistance to breakage from ice formations. The antenna was designed for use in the VHF omni-range system which is being marketed by NARCO.

Hearings to Weigh Need For Plane-Ship Telegraphy

October 18th has been set by the CAB as the date on which public hearings covering required communications equipment and facilities for long overwater flights will be held in Washington, D. C. Principal factor to be determined is the need for 500 kc. communications equipment aboard aircraft engaged in over-water flights.

Closely allied with this question is the need for carrying flight radio officers for radiotelegraph operation on 500 kc. and higher route frequencies. Many airlines have eliminated radio officers by using pilot-operated radiotelephone on route frequencies.

The contention of those favoring the retention and restoration of 500 kc. equipment is that, as the international distress frequency for all maritime vessels, this radiotelegraph communications channel is necessary to insure immediate cooperation of surface vessels in the event of an emergency ditching at sea.

Those opposing use of 500 kc. claim that it has been tried and found wanting, is too slow, and that the history of overwater flights disproves the need for direct communications with surface vessels.

ATA Forms Committees For N. Y. Traffic Liaison

Seeking further improvement of flight control in the New York area through closer cooperation among all elements concerned with the expeditious handling of aircraft movements at La Guardia, Idlewild and Newark airports, the Air Transport Association is sponsoring the organization of two working groups to deal with the problem.

One group is the New York Chief Pilots' Committee, and the other is the CAA New York Air Traffic Control Committee composed of CAA chief controllers of the New York center and tower and representatives of the airlines serving the area. Some changes in the use of runways, better communication facilities, an increase in ATC personnel, and improvement in the proficiency of airline radio operators are among the improvements indicated.

Among the Suppliers

Binks Mfg. Co., makers of spray painting and finishing equipment, have appointed **E. J. Cremer** as manager of the new Binks' Sales engineering office located in the Empire State Bldg., New York City . . . **R. P. Wagner** of the **Westinghouse Electric Corp.** has been appointed manager of industrial products advertising and sales promotion. Since 1945 Wagner has been division manager at Westinghouse . . . **C. Victor Mars**, formerly sales manager for the **Ansul Chemical Co.'s** Industrial Chemical Division, has been named manager

Mars Yeager

of the company's New Product Dept. **Robert J. Yaeger** succeeds Mars as Industrial Chemical sales manager . . . **Henry N. Muller, Jr.** has been named assistant to the Vice-President in charge of Engineering with **Westinghouse Electric Corp.** Muller, who was formerly manager of the Educational Dept. at Westinghouse, will continue to direct the educational activities . . . The **Flexible Tubing Corp.** Branford, Conn., makers of Spiratube Flexible Tubing, has appointed **A. H. Loux** as manager of distributor sales . . . **Jim Holland**, formerly sales manager for Phillips Division of the American Screw Co., has taken over as Sales manager of the **Camcar Screw & Mfg. Corp.** of Rockford, Ill.

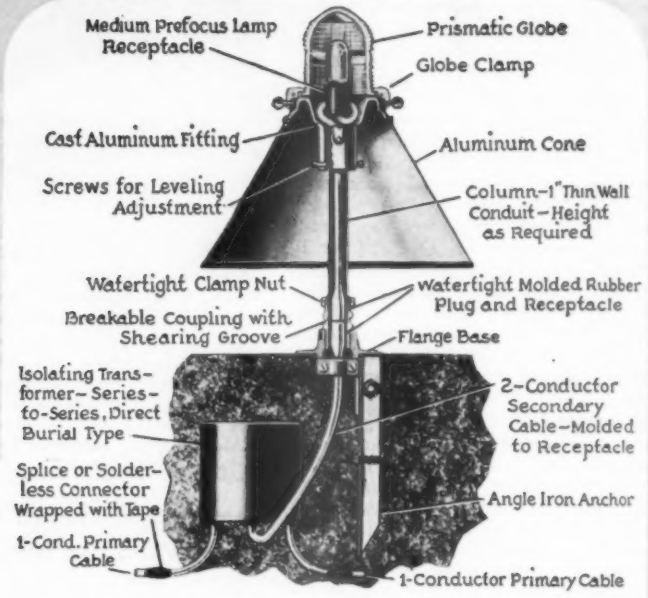
The **Heli-Coil Corp.**, Long Island City, New York, has elected **Louis R. Ripley** as president. Heli-Coil is the mfg. of stainless steel screw thread inserts . . . **Vincent Ellis** has joined the eastern division of Lear, Inc., as sales engineering representative, working out of the New York office.

George B. Post, vice president of **Edo Corp.** and veteran aviation figure, has resigned because of illness. No successor was named.

CROUSE-HINDS

Elevated Runway and Taxi Light

with mounting assemblies to suit YOUR requirements



Crouse-Hinds Type ERL Elevated Marker Light with Transformer Housing

Style A mounting is illustrated in the sectional view of Type ERL Elevated Marker Light shown above. It is for series circuits and consists of surface flange, anchor assembly, and isolating transformer.

Style B mounting is illustrated in the broken-away view at the left. It consists of a base plate and gasket to fit transformer base housings. It is used for converting existing flush marker light fixtures to ERL fixtures or for new installations at large airports or wherever a first-class wiring installation is desired. This mounting provides maximum accessibilty of the transformers and connections and will save considerable time in case of wiring difficulties. Style B mounting can be used on either series or multiple circuits.

Style C mounting is for multiple circuits and consists of a junction box with a hub cover on top, two squeeze connectors for through-feed cables at the bottom, and a 30-inch angle iron anchor. This mounting is especially desirable for taxi light installations or other situations where straight three-wire multiple circuits are desirable.

Crouse-Hinds Elevated Marker Light is built to meet Specification L-802 of the Civil Aeronautics Administration. It has a variable height up to 30 inches overall to meet local snow conditions. Either symmetric or asymmetric light distribution can be furnished. The globe is clear for runway lights, green for threshold lights, or blue for taxi lights. A breakable aluminum coupling is at the bottom of the mounting column. It is designed to withstand high winds and propeller blasts but will break readily upon impact.

This marker light is one of the hundreds of items in Crouse-Hinds complete line of airport lighting and control equipment. Write for full details on the equipment you require, whether it is a single unit or a complete airport installation.

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TECHNICAL LITERATURE

Omnirange Calibration: CAA's Office of Technical Development has published technical development report 69 titled "Flight Calibration of VHF Omnirange System." This six-page bulletin describes the omnirange calibration method in use at CAA's Experimental Station at Indianapolis, Ind. It outlines the procedure, pictures certain items of the equipment and provides block diagrams and sample recordings. The system is applicable to low- and high-frequency omniranges.

Rust Preventatives: Esso Standard Oil Co., 15 West 51st St., New York 19, N. Y., has released a 14-page report titled "Rust-Ban." The illustrated booklet lists the wide range of Rust-Ban products for all industrial applications and contains detailed recommendatians for the selection of rust preventatives and other information on the use of these coatings.

Arc Welding: General Electric, Schenectady 5, N. Y., has announced the publication of a new 20-page catalog containing descriptions, specifications and prices of more than 150 arc-welding accessories. Designated GEC-253A, the bulletin includes information on electrode holders, helmets, goggles, tungsten electrodes, all types of protective aids and clothing, electrode carriers, cable connectors, ground clamps, brushes, cleaning tools, fillet weld gage, and many other accessories for the arc-welding operator.

Daily Plane Utilization

International

		May	June
AA	4 eng. pass.	6:01	5:43
	cargo	4:37	3:53
AOA	2 eng. pass.	1:30	2:09
	4 eng. pass.	6:24	7:34
Bnf	2 eng. pass.	2:33	4:27
	4 eng. pass.	6:13	6:47
C & S	2 eng. pass.	9:41	.....
	4 eng. pass.	6:22	7:25
Col	4 eng. pass.	4:39	4:27
EAL	4 eng. pass.	9:23	9:21
NAL	4 eng. pass.	7:03	7:07
	cargo	1:18	1:23
NWA	4 eng. pass.	10:24	11:03
Panagra	2 eng. pass.	4:16	4:40
	4 eng. pass.	5:38	6:25
	cargo	3:37	2:25
PAA			
Lat. Amer.	2 eng. pass.	3:21	3:10
	4 eng. pass.	8:39	8:43
	cargo	2:30	2:50
Atlantic	2 eng. pass.	4:01	3:33
	4 eng. pass.	5:46	7:10
	cargo	6:12	6:34
Pacific	4 eng. pass.	8:00	8:07
	cargo	12:15	5:42
Alaska	4-eng. pass.	7:13	8:22
	cargo	6:16	7:51
TWA	4 eng. pass.	7:48	8:49
	cargo	6:38	7:10
United	4 eng. pass.	6:26	6:20

Feederlines

		May	June
AAA	Stinson SR-10-C	3:22	1:59
	DC-3	6:30	6:43
Challenger	DC-3	8:19	8:07
Empire	DC-3	5:31	5:17
Monarch	DC-3	6:55	7:06
Piedmont	DC-3	6:38	6:47
Pioneer	DC-3	7:10	7:09
Robinson	DC-3	4:28	4:30
Southern*	DC-3	.....	2:49
Southwest	DC-3	5:45	5:42
TSA	DC-3	7:07	6:29
West Coast	DC-3	5:27	5:26
West. Cent.	Lockheed 10A	5:08	5:16

*Began operations June 10, 1949.

Extra Section

By William D. Perreault

"WHY HAVEN'T the U. S. airlines adopted wings on seat head rests to facilitate dozing enroute?" asks fellow staff member and Veep Eric Bramley. After much thought and many questions I've about decided it's simply a maintenance item. It costs about four times as much to launder the envelope type of head rest cover used on straight back chairs as compared to the simple, flat flap which has gained such acceptance in the past two years. By the very nature of the convenience, wing areas on head rests would have to be adequately protected and costs would soar much higher. The relative cost of initial procurement and routine replacements would be even higher. Otherwise, there seems to be no good argument against winged head rests.

•

During the annual Champion sparkplug conference in Toledo last month, American Airlines' engineer Paul Kovack stated that AA experiences an annual loss of $8,500 due to ignition troubles on each DC-6 and $11,500 for each Convair Liner. He estimated that a 40% reduction in ignition difficulties on these ships would provide a gross saving of $1,000,000 in five years. If this 40% reduction in ignition troubles could be assured by going to low tension or high frequency-low tension ignition systems, American would probably act accordingly but a reduction of troubles by only 20% would not justify the change since the high cost of initial installations would cancel out the economic benefits.

•

The Babb Company has published an interesting case history of the Catalina flying boats. This effective sales effort is widely illustrated, outlines briefly the type of military and commercial use that has been made of the "Cats" and concludes with statements by prominent users of the PBY's. Outlining its technical services, parts inventory and license to build PBY parts, Babb assures the operator that "Your PBY Will Never Be An Orphan."

•

The National Bureau of Standards warns that chromium plating, as used on gages, cylinder walls, piston rings and other machine parts may be adversely affected by a decrease in fatigue limit unless proper precautions are taken. In all cases chromium plating was found to reduce the fatigue limit of the steels studied and it is indicated that one probable cause is the residual stresses in the chromium while the embrittling effect of hydrogen deposited with chromium and cracks in the chromium are also listed as possible causes.

•

It still seems that with turbo-prop powerplants eating about .75 lbs. fuel per horsepower per hour, there is a sizeable role for a compound engine in the commercial transport field. The present day compounded engines are said to be operating at about half this figure and there are indications that present day consumption of the compound engine will also experience improvements. While there is still the noise factor of reciprocating engines, lower fuel consumption, higher payloads and improved performance would appear to provide some interesting potentials.

•

United Air Lines and its president William A. Patterson will be extended a vote of thanks from the Radio Technical Commission for Aeronautics as a result of United's advertising in the national press describing the basic functions of the RTCA. AOPA manager J. B. Hartranft and CAA Administrator D. W. Rentzel were prime movers in putting a motion before the RTCA General Assembly which resulted in the unanimous decision to acknowledge United's valuable contribution to the better understanding of this group's work.

New Curtiss Propeller

FOR THE NEW L-749A CONSTELLATIONS

A new Curtiss propeller has been approved by the CAA for unrestricted operation on Lockheed L-749 and L-749A Constellations. This propeller's high solidity provides improved take-off, climb and cruise speed at higher gross weights, and its rugged construction assures long service life.

Other *service-proved* Curtiss features incorporated in this new propeller are . . . *reliable feathering* . . . *reverse thrust* for smooth, air-cushioned landings . . . *automatic synchronization* for passenger comfort and ease of control . . . durable *hollow-steel blades* for abrasion resistance.

The acceptance of this new propeller, after extensive stand and flight testing . . . under conditions surpassing the severest stresses of service use . . . is further evidence of Curtiss-Wright's leadership in the field of aircraft propellers.

CURTISS ELECTRIC PROPELLERS

A PRODUCT OF

PROPELLER DIVISION CURTISS-WRIGHT CALDWELL, NEW JERSEY

FIRST IN FLIGHT

NEW PRODUCTS

Blinker System

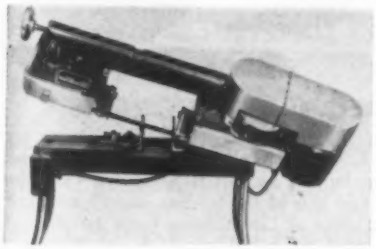
Van **Dusen Aircraft Supplies,** Minneapolis, Minn., Teterboro, N. J., and Boston, Mass., is marketing light-weight, low-cost flashing position light mechanism for personal and executive aircraft.

Known as the BLINK-R, the unit is manufactured by **Airlectron, Inc.,** of Caldwell, N. J. Entire aluminum covered assembly weighs 22 ounces installed, measures 6 x 4¼ x 2 in., and can be mounted where convenient along the position light circuit.

The BLINK-R is available in two models for 12 and 24 volt operation, each incorporating a fail-safe provision for component failure which will leave the lights "steady-on." Noise filters for the suppression of radio interference are standard equipment.

Band Saw

Wells Mfg. Corp., 130 Service Rd., Three Rivers, Mich., is marketing a low priced metal cutting band saw known as the model 49A. It has a capacity of 3½" for rounds 3½" x 6⅝" for rectangu-



lar shapes. Power is supplied by a 1/6 horsepower motor with provisions for manual starting and automatic stopping. Selective speeds of 54, 100, and 190 rpm are provided by a V-belt drive. Over all height is 24", weight is 118 lbs. and bed area is 6½" x 24".

Dzus Removal Kits

Aircraft Tools, Inc., 2306 East 38th St., Los Angeles 11, Calif., is marketing two new removal kits for use with Dzus and Hi-Shear fasteners. The Dzus collar removal kit, number AT-590-E, consists of a shop countersink unit and three matched sets of collar cutters and grippers to fit individual fastener dimensions. Gripper teeth hold the fastener collar rigid during cutting. Collar removal is accomplished without marring the metal. The AT-590-C kit for removing Hi-Shear collars includes a micrometer stop countersink which controls tool operation and prevents skin damage.

Coded Wire

Midwest **Automatic Control Co.,** 510 Third St., Des Moines, Iowa, is marketing a new kind of electric wire for aircraft use, using numbers instead of color coding to identify it. "Magic Wire," as the manufacturer calls this new product, has a code number imprinted in bright red on every inch of yellow insulation, and terminals are numbered to correspond with the wire numerals. It is available in No. 16 solid wire with plastic insulation, and in other sizes and types in any specified brand of wire on request.

Isolation Amplifier

Aircraft Radio Corp., Boonton, N. J., is marketing a Type F-11 Isolation Amplifier which weighs 8.3 lbs. For use in aircraft, the F-11 makes it possible for

the flight crew members to select any combination of ten receivers, sidetone, interphones, etc. with complete independence of each other's choice. It also proves loudspeaker operation to both pilot and co-pilot. Immediate delivery is quoted by the manufacturer.

Vinylite Covers

Philmont Manufacturing Co., 60 Honeck St., Englewood, N. J., has announced a series of mattress covers, pillow cases and headrest antimacassars made of a new improved vinylite plastic which has the waterproof qualities of rubber and the feel and texture of percale sheeting. Sold under the name SaniPhilm, these products feature high frequency electronic-eye welded seams which are as strong as the material itself. Material does not crack, peel, stiffen or tear easily.

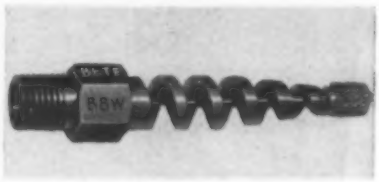
In addition to protecting mattresses and pillows, the coverings can replace sheeting. The material is resistant to stains, odors, bacteria and fungi, can be sterilized and stored like ordinary linen and is comparable in cost and service life.

Inquiries about equipment on this page may be sent either to AMERICAN AVIATION or direct to the manufacturer.

Readers looking for sources of special equipment are invited to write to AMERICAN AVIATION's equipment editor. Every effort will be made to provide information on manufacturers and suppliers who are in a position to furnish or develop needed airborne or ground equipment.

Fog Nozzle

Channing L. Bete Co., Inc., 20 Federal St., Greenfield, Mass. is offering a new spray nozzle which has a unique spiral design that produces a finer atomization



vet is practically non-clogging, according to the manufacturer. The Bete nozzles shear from a single, high velocity jet a continuous film instead of using vanes or whirl discs. Flow rates with the new nozzles vary from ¼ gallon per minute to 100 gpm.

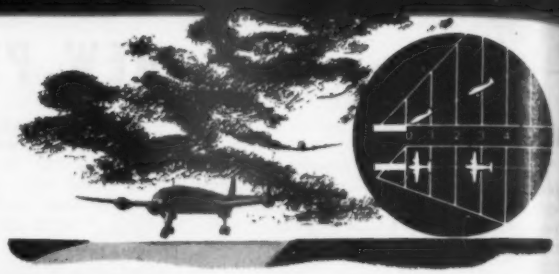
Lever Switch

Switchcraft, Inc., 1328 N. Halsted St., Chicago 22, Ill., is manufacturing a small lever action switch for low power switching applications in communications systems and parallel installations. Requiring only one hole for mounting, the "Lev-R" switch is furnished in standard circuits, both two and three position actuators, either locking or non-locking type. Overall length is 2 17/64 in.; width ⅝ in., height dependent on circuit. Contacts are of fine silver, rated at 3 amps, 120 volts AC, with alternate materials available for special applications.

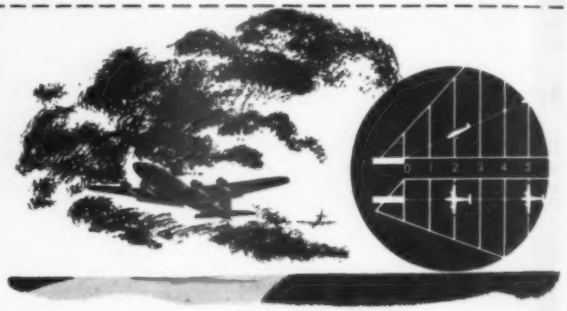
Pressure Switches

Saval, Inc., 1915 E. 51st St., Los Angeles 11, Calif., is marketing an improved line of pressure switches which are claimed to be dimensionally smaller, lighter and provide simple external adjustment. The switches are made in normally-open and normally-closed types operating within a range from 100-3,000-

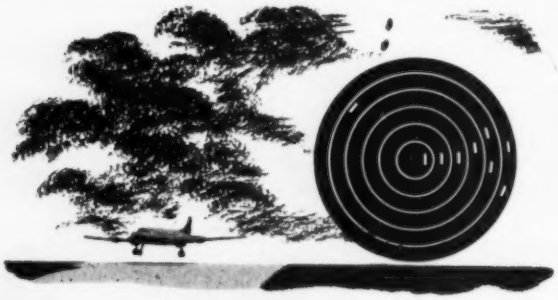
psi pressure. The external adjustment is protected and provides for manual regulation in the field for ranges of 500 psi. Can be adapted for hydraulic oil, fuel, gas, air and non-corrosive types of freon. Dimensions are 3 11/16" x 3 3/32" x 1½". Designed to meet AN specifications.



GCA Unstacks Aircraft a Minute Apart—4 Times Present IFR Limits. At most airports, CAA IFR procedure permits aircraft to unstack at 4 minutes minimum spacing. With GCA's precision scopes showing each aircraft's position in 3 dimensions, the new CAA Radar Procedure Manual permits unstacking at 1 minute spacing . . . 4 times as fast with GCA. Actually, with GCA, stacks seldom develop, because GCAirports handle IFR traffic with clear weather speed and safety.



GCA Speeds Up IFR Landings and Take-Offs 300%. In IFR weather, once an aircraft reports over the Downey marker on final approach at Los Angeles, all take-off aircraft are held. At time of report, the landing aircraft is 5 minutes – 15 miles – from touchdown. And should the landing aircraft miss first approach, present practice at Los Angeles keeps the take-off aircraft grounded until a successful approach and landing is made. With GCA, planes can take-off until landing aircraft is within 1 minute – 3 miles – from touchdown.



GCA Isolates Rogue Aircraft. When an unidentified aircraft flies into a crowded airport area, GCA spots its position immediately. Unidentified "rogue" aircraft accidentally flying off course into the Los Angeles Airport area could conceivably disperse a dozen large transports at incalculable cost and jeopardy. GCA's high powered search scopes bring the rogue under control at once, and any danger of collision is eliminated.

GCA Eliminates Costly Turn-Backs and Safety Climbs. In IFR weather, the bogey of all pilots is the tedious, time-wasting climb to avoid stacks and other aircraft. Departing aircraft must fly "over the top"—sometimes 14,000 feet—before proceeding on course. With GCA, departing aircraft must keep only a 3-mile horizontal distance from other aircraft. They can because tower GCA gives them the relative bearing and distance of other aircraft. Also, departing aircraft under GCA surveillance take off 1 minute apart – 3 times present CAA limits.

PIONEER DEVELOPER AND MANUFACTURER
OF GCA FOR THE USAF AND CAA

GCA Gilfillan
LOS ANGELES

New Airport Revenue Aids Tested at South Bend Field

A program for testing new revenue and promotional ideas for airport terminals is now underway at St. Joseph County Airport (Bendix Field), South Bend, Ind.

The testing is being done by the airport consultant firm of Leigh Fisher & Associates, formerly of Detroit and now located at Bendix Field. The Fisher firm has been retained for some time as financial counsellors to the St. Joseph County Board of Aviation Commissioners and plotted the requirements for the recently-dedicated terminal building at the airport.

The new arrangement gives Fisher an unusual opportunity to make suggestions and then keep their operation under the closest scrutiny.

Aim of the St. Joseph board and the Fisher organization is to develop an airport that will not only adequately serve the community but will be self-supporting and a financially sound venture, not dependent upon tax money for its upkeep and operation. With the new terminal building, they are well on their way.

This building, costing about $580,000, including furnishings, and containing approximately 33,000 square feet of usable area, was designed for integrated passenger, cargo and express handling until such time as the air freight and express volumes warrant separate facilities. This integration, according to plan, not only does not impair the grace, harmony or efficiency of the building but provides a much less costly station operation for the three scheduled airlines serving South Bend.

Display Cases. The terminal building was designed with an eye to fullest exploitation of its revenue potentialities. For example, approximately 150 lineal feet of display cases were built into the walls of the building and are leased on lineal foot basis which varies with the location and traffic flow by the respective cases.

When this idea of using wall areas along circulation flows for commercial purposes was first presented to the Board of Aviation Commissioners, they couldn't see the added expense of such facilities and were skeptical that there was sufficient demand in South Bend to support 150 lineal feet of such display cases.

Research of the Fisher organization indicated, however, that there would be enough demand to support the 150 lineal feet, and they "sold" the plan to the Board. After the terminal was constructed and prospective displayers had inspected the building and the orientation of the display cases, there was almost immediate demand sufficient to fill 225 lineal feet. The airport grosses about $8,000 annually from this one concession.

Restaurant Revenue. Another good revenue producer is the Dobbs House restaurant, which is expected to return about $7,000 annually to the terminal management on a percentage arrangement. Pay toilets and coin-operated showers and dressing rooms are bringing in another $100 a month.

An interesting fact about the Bendix Field situation is that air passenger patronage of the airport has increased approximately 35% since occupancy of the new terminal, as against a 10% system increase for the carriers serving the city. Comments of passengers indicate that the attractiveness of the new building is responsible for the difference of 25%.

The story of how St. Joseph County

INTERIOR VIEW of the new $580,000 terminal building at St. Joseph County Airport (Bendix Field), South Bend, Ind., shows some of the built-in wall display space (left) from which the airport management will derive monthly revenues of about $8,000. To the rear of this space, which is leased to the Studebaker Corporation, is seen an attractive newsstand which constitutes another worthwhile source of revenue. It is such concessions as these that are counted upon to make the new building self-sustaining and self-amortizing.

STRUCTURE shown here is the new $580,000 terminal building at St. Joseph County Airport (Bendix Field), South Bend, Ind. The engineering master plans were prepared by the South Bend firm of Worden and Williams, after preliminary plans had been developed by Frank Montana and Vincent Fagin consultant design architects. Requirements for the terminal were worked out by Leigh Fisher & Associates.

PASSENGERS boarding a plane at the St. Joseph County Airport get this kind of view when walking from the lobby of the new terminal building to the loading ramp. View includes the recessed baggage room and two of the wall display cases leased to South Bend business firms.

INTERIOR VIEW of the new St. Joseph County Airport terminal building shows some of the handsome modern furniture and furnishings installed by Knoll Associates of New York. Visitors to the airport find the effect most striking.

got this unusual building dates back to 1939 and 1940, when there was much discussion of the need for a new terminal building at Bendix Field. But before the discussion could jell into action, the war intervened and made construction of the terminal out of the question. Increasing air travel and airline activity after the war brought about a revival of interest in the project in late 1946.

Board Hires Fisher. The Fisher organization was brought into the picture in January, 1947, by the Board of Aviation Commissioners, a body made fully responsible under the Indiana Aeronautics Act for the development, operation, management, promotion, expansion and maintenance of the St. Joseph County Airport.

By May, 1947, a program was submitted to the Board containing recommendations for a new terminal building, improvements of the field, including ramps and taxiways, and a complete revision of the methods and policies used in financial administration and management of the airport.

The various affected civic organizations and governmental bodies accepted this plan, and preliminary plans for the new building were developed by Frank Montana and Vincent Fagin, consultant design architects. Contracts were let to Worden and Williams, associated architects and engineers of South Bend, for development of the working drawings and of the full engineering master plans.

Gets Federal Aid. Then followed months of negotiation with the Civil Aeronautics Administration, culminating late in 1947 in a Federal-aid grant offer, and contracts were let for construction of the new terminal. Contracts subse-

quently were let, also with Federal participation, for development of a new ramp and apron area, taxiways, fixed-base operator ramp areas, access roadways, parking lots, utilties and other necessary improvements to make a well-integrated and efficiently operating airport.

The Board was careful, during this period, to carefully scrutinize each investment and proposed investment to make sure it would fit into the overall financial and operating program of the airport. At the same time, they were constantly re-appraising financial policy, investigating new economies and exploring new sources of airport revenues. Through careful planning by Airport Manager Charles Duke, the field was kept open and aircraft operations were continued without operation throughout the major construction period.

Today, South Bend and St. Joseph County have an airport and a terminal building of which they can be proud. And the best part of it is that, with the help of the Fisher organization and a business system now being installed, there is a very good chance that the whole venture will prove self-supporting.

CAA Gets Recommendations From Airport Advisory Group

Within less than 30 days after concluding its first meeting, the Civil Aeronautics Administration's Airports Advisory Committee last week submitted to Administrator D. W. Rentzel its first set of recommendations. There were 12 in number which, although admittedly "limited in scope," touched on a number of important airport problems.

A. B. Curry of Miami, chairman of the committee, turned the recommendations over to Rentzel, who promised that CAA would give them prompt study and consideration.

The recommendations of the committee were as follows:

Continuation of the Federal Airport Act: Concern was expressed that the Federal Airport Act is due to expire June 30, 1953, and the program to date has "only begun to scratch the surface for the development of airports which are critically needed." Pointing out that only 39% of the $520,000,000 Congressional authorization of the Act has actually been appropriated, the committee urged that the Administrator recommend to Congress and others concerned that the Act be extended and continued.

Taxation of Airports: The committee felt that while exemption of commercial and privately owned airports from taxation "would undoubtedly stimulate interest and private enterprise in fields exempted," further study of the problem of taxation should be made. It asked for complete available data for consideration at its next meeting.

Cross-wind Landing Gear ". . . a worthy contribution to safety in flight," (but) . . . Federal airport funds should continue to be expended for the construction of multiple-directional runways until such time as there is more proof of the practical value of all such

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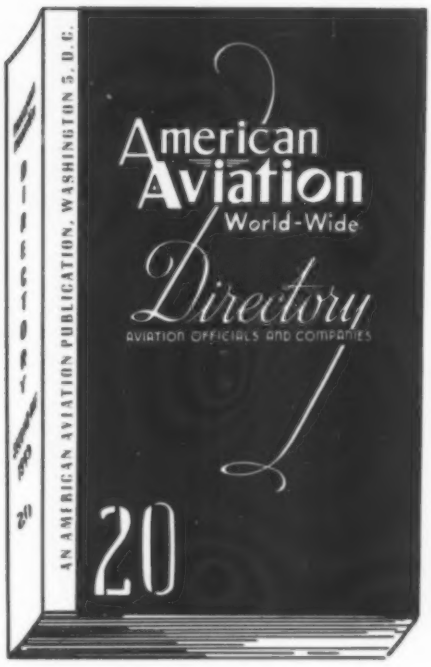

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devices which tend to eliminate the necessity of construction of more than single-direction runways. The Committee recognizes that in many cases single-direction runways have their place and should also receive Federal aid."

Design of Towers: The committee expressed concern over CAA's Technical Standard Order N-13 pertaining to design of air traffic control towers and questioned "the right of the CAA arbitrarily to tell the airport operator that there will be no operation at an airport or no Federal funds unless he adheres exactly to the specifications promulgated . . ." It was recommended that the order be modified to apply only to such cases, if any, as constitute a "recognized hazard to safety in operation . . ."

Aviation Education: To help "cure the public's present misunderstandings regarding aviation," the committee recommended that the safety features of the work of the CAA and the Weather Bureau "be dramatized as an educational film by the motion picture industry."

Planning of Terminals: Concerned with "the lack of data and criteria available . . . to be used in connection with the efficient utilization of space in airport terminal buildings," the committee recommended that the Administration initiate "a project towards the development of a publication which would disseminate the best data, practices and criteria available on this subject." It suggested consideration of establishment of an annual award in schools of architecture for the best functional utility design.

Airport Abandonments: Concerned with the problem of "finding all possible means and doing everything reasonably possible to avoid or prevent the abandonment of existing airports," the committee said CAA should employ able personnel to advise airport owners and operators regarding sound operating practices, economies in operation and improvement in revenues. "The greatest need," said the committee, "is to make the airports self-sustaining. Education, rather than regulation, appears to be the most practical approach."

Air Star Routes: Recommended that the Administrator maintain a continuing liaison with the Post Office Department to facilitate the delivery of mail by air.

Unused Federal-aid Funds: Endorsed the recent Congressional compromise on the use of Federal-aid airport funds apportioned to states but not used.

International Fees: Recommended that any international agreement on airport fees and charges be patterned after the ICC and CAA acts, be consistent with transportation legislative policy, and not deprive the airport operator and the aeronautical user of the airport of the opportunity of exercising independent business judgment.

Airport Regulations: Commended CAA for its recent simplification of the regulations and paper work connected with the National Airport Program.

Airport Land Costs: Requested the Administrator to seek early passage of pending amendments to the Federal Airport Act which would boost from 25% to 50% the amount of Federal participation in the cost of land needed for airport development.

Chairman Curry expressed the hope that the next recommendations from the committee could be more detailed and more positive.

"Since the first committee meeting, we have invited the airlines to pose some of the problems now confronting them at many airports," wrote Curry. "also, your committee has been receiving numerous inquiries from local operators and officials . . . It is surprising to us how the committee has caught on with the imagination of the public . . ."

He said the next meeting of the committee would be held in Los Angeles on January 23, 1950.

Truman Signs Surplus Airport Properties Bill

President Truman has signed into Public Law No. 311 the bill H.R. 3851 which gives the Civil Aeronautics Administrator the sole responsibility for determining and enforcing terms under which surplus properties on airports may be transferred for non-aviation uses.

The Committee on Expenditures found that many buildings transferred to public agencies for airport revenue-producing purposes are now lying idle because they cannot be put to industrial use. Public Law 311 gives CAA authority to remove such restrictions on contracts previously made. It also removes this restriction on transfers.

CAA Airport Grant Offers

For the two-week period ended September 30, Federal-aid airport grants totaling $571,854 were made to 21 communities by the Civil Aeronautics Administration, as follows, with classes in parentheses:

Arizona: Bisbee-Douglas Municipal (4), $10,949.
Arkansas: El Dorado Mun. (4) $10,000.
California: Dorris Mun. (3), $5,937; Merced Mun. (3), $21,298; and Monterey Peninsula Airport (4), $28,494.
Georgia: Hunter Field, Savannah (5), $45,000.
Idaho: Weiser Mun. (2), $3,257.
Kansas: Wichita Mun. (6), $33,000.
Massachusetts: Worcester Mun. (4), $55,000.
Michigan: Watervliet Mun. (2), $12,900.
Minnesota: New Ulm Mun. (2), $21,250.
Mississippi: Yazoo City Mun. (2), $12,000.
Montana: Billings Mun. (4), $29,838; Malta Mun. (1), $23,553; and Missoula County Airport (4), $80,328.
New Mexico: Santa Fe Mun. (4), $23,100.
New York: Dutchess Co. Airport, Poughkeepsie (2), $15,000.
North Carolina: Asheville-Hendersonville Airport (2), $26,700.
Ohio: Akron-Canton Airport (4), $42,500.
West Virginia: Tri-State Airport, Huntington (3), $14,240.
Wisconsin: LaCrosse Mun. (4), $57,500.

These boosted the Federal-aid grants through September 30 to 942 and the Federal funds involved to $87,721,816.

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Glendale News-Press

PAGE 4-8 MONDAY, NOV. 22, 1948

Integrity in Business

Although business concerns, both large and small, have long been pointed to as the "big bad wolves" of our economic life, the fact is that most business organizations are considerably better members of the economic family than certain minority groups would have us believe.

Integrity in business is the rule, rather than the exception. But even so, it is interesting and encouraging to find such evidences of business integrity as recently have been demonstrated by the Grand Central Airport Co., right here in Glendale.

This company, one of Glendale's most important industries, recently completed an interesting contract for the Chinese Air Force, in the performance of which 100 C-46 Curtiss Commando cargo airplanes were overhauled and modified.

The planes had been left in storage at Walnut Ridge Ark., at the cessation of hostilities following World War II. Grand Central sent a crew of experts to Walnut Ridge to "ready" the planes for flight, after which they were flown to Glendale, completely overhauled and modified, and then flown to China.

Obviously this was a difficult and an unusual undertaking and one which brought commendation from all quarters of the aviation industry. It becomes more outstanding when it is realized that every one of the planes flown from Walnut Ridge to Glendale and worked over by the highly trained Grand Central technicians arrived safely in China, being flown via Honolulu, Wake, Guam and thence to Shanghai.

To the layman, however, the most noteworthy part of the entire accomplishment lies in the method of charging for the job.

The work on the planes was contracted for by the Chinese Air Force at a fixed price for a fixed number of hours. But the Glendale concern, by the efficiency and skill of its operation, was able to reduce substantially the number of hours required for the job. Instead of pocketing the difference, however, Grand Central passed the savings on to the Chinese.

The company recently has received a letter of commendation from Gen. Pang-tsu Mow, deputy commanding general and Chinese Air Force representative in Washington, D. C. It is understood that funds for the work were originally advanced to the Chinese by the United States.

A similar instance of "integrity in business" came to light following the completion of a contract by Grand Central to overhaul 24 C-54's, the Douglas four-engined transport now being used by the United States Air Force on the Berlin air lift.

The ships required a complete general overhaul and the company was given a contract at a flat rate per hour, following rigid specifications, with no top amount set by the government.

As with the Chinese contract, the local company completed the job satisfactorily and on schedule. And again, by careful planning and the use of highly skilled technicians, Grand Central turned out these planes at approximately $15,000 per job cheaper than other concerns doing exactly the same work. So a saving of approximately $360,000 was effected—this time for the United States government.

The history of business in the United States must have many similar chapters. But it is of special pride to Glendale citizens to realize that in Grand Central Airport Co. the community has one of the organizations that takes pride in practicing integrity in business.

Which probably is one of the important reasons why the concern, which operates the important Grand Central Airport as well as its large shops and a technical school, has continued to stay in business and to prosper since 1929, even in the face of strong competition.

Similar action by every business would be of great aid to the fight against inflation and for lower prices.

(REPRINT OF AN EDITORIAL, IN GLENDALE NEWS-PRESS, NOV. 22, 1948)

GRAND CENTRAL AIRPORT CO.

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Erosion Control Major Problem for Hilltop Field

Erosion on the supporting slopes presents a major problem to Fred Alley, manager of the mountain-top Kanawha County Airport at Charleston, W. Va.

Strong updrafts and downdrafts sweep the slopes, combining with the run-off of rain water from the field to create the problem. Hundreds of gullies now cut the slopes, especially on the 200-foot high southwest slope known as the "horseshoe" because of its general shape. Planning of the airport management and District Conservationist Kurt Ziebarth of the U. S. Soil Conservation Service is aimed at eliminating the trouble.

Already, a lush green covering of grass and shrubs has about stopped the erosion on the northern and eastern slopes, and progress is being made in halting the inroads of the elements on the western and southwestern slopes.

Being used to fight the erosion, which got a good headstart while the airport was under construction and little attention could be given to anti-erosion measures, are: shrubs and tree seedlings, 54,000 of which have been planted to date; grasses found adaptable to the various soils on the slopes; and the spreading and tramping down of hay into the gullies.

Major hopes center on the latter treatment. Airport maintenance men dump hay and cut grass from the airfield borders over the top of the slopes and then tramp it down into the gullies by walking on it. This protects the soil by keeping it moist and permitting the grass seeds to take hold. The cover also absorbs run-off rain and prevents it from gouging deeper gullies.

Plantings on the slopes include black locust trees, which thrive in the West Virginia climate; multiflora rose, a fast-growing many-rooted shrub; lespedeza and orchard grass.

Ziebarth and Alley realize they have a big job, and one that will take money and effort, but they are now confident that their program, aided by time and nature, will master the erosion completely within a few years and insure the permanence of the airport.

Airport Notes

Abilene, Tex., which owns both Abilene Municipal Airport and Tye air base, has retained **Pat Moore** and **Leigh Fisher & Associates** to make an overall survey of the economic desirabilities and potentialities of the two fields to help it decide which one to develop further.

The **Bernardsville (N. J.)** Borough Council rejected a zoning ordinance amendment which would have flatly banned airports from its residential zones and voted instead to control the development of private airports through licensing . . . The privately-owned **State College, (Pa.)** airfield may be passed up by county authorities in favor of the surplus **Black Moshannon Airport**, which may be leased from the government for 99 years at $1 a year.

The **Denver** city council has passed an ordinance permitting the city to accept a $43,000 Federal-aid airport grant to help build a new automobile parkway approach to **Stapleton Field**. . . . The Cody (Wyo.) city council turned down a proposal to improve the **Cody airport** to accommodate planes of the DC-3 size.

The **San Jose (Cal.)** city council backed down a previous decision to build 30 lightplane hangars at the municipal airport and reduced the number to 20 after two operators of private airfields in the area had protested . . . The City of Richmond (Va.) turned down $200,000 of a $270,000 Federal-aid offer for development of **Byrd Airport** on the grounds that the city couldn't afford to match the grant at this time.

Houston's five-year-old master plan for improvement of its **Municipal Airport** may be revised to eliminate at least one and possibly two of the eight proposed runways . . . Consulting engineers hired to advise **St. Louis** as to the best site for a close-in major airport have reported that either the **Horseshoe Lake** area or the **Parks Metropolitan Airport** would be feasible to develop.

The Municipal League of Seattle has recommended consolidation of the **King County (Boeing Field)** and **Seattle-Tacoma** airports under management of the Port of Seattle . . . The $500,000 administration building at **Charleston (S. C.) Municipal Airport** is completed but will not be opened until early February.

Kent County (Grand Rapids), Mich., voters will ballot October 17 on a proposal to provide a 1-mill levy for two years to raise the county's share of a $2,500,000 airport expansion program . . . The last concrete of the runway extensions at **Davenport (Ia.) Municipal**, near Mt. Joy, was poured recently . . . Private interests are building a landing strip on **Vinalhaven Island**, 15 miles off the Maine coast.

Shreveport, La., is about ready to let contracts for the first stage of construction on its new $4,000,000 airport. The work to be let will cover clearing and grubbing, grading, drainage and runways . . . A charter of incorporation has been issued to **Fort Worth Air Terminal, Inc.**, which will operate the **Greater Fort Worth International Airport**. The group will start planning a terminal building soon.

The **Missoula (Mont.)** county airport board is reviewing bids for construction of an airport administration building to cost from $135,000 to $170,000.

The Chicago Aero Commission has recommended that the city council name the city's main air terminal **Midway Airport**, instead of **Chicago Municipal**.

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Sprayer Cleans Engine Parts

A MORE EFFICIENT method of cleaning engine parts, using an intensified jet spray principle to rinse off the residual sludge after a detergent bath, has been devised by Homer D. Miller, Jr. and Oscar McCurdy of Pan American World Airway's Miami Overhaul Base.

The old method of rinsing off the detergent sludge involved lowering the parts in wire baskets into water-filled tanks and agitating the water from the bottom by compressed air. This left a thick scum of oil, paint, sludge, etc., floating on the water and a heavy sludge deposit on the bottom of the tank. As the baskets were raised the scum settled on the engine parts, leaving a deposit which could be removed only by another bath in mineral spirits. Considerable time also was required to clean the sludge deposits out of the tanks.

The improved method is simpler, faster and cheaper. Instead of being filled with 1,200 gallons of water, each of the three rinsing tanks now is empty except for four half-inch pipes, one about two feet from the top around the walls of the tank and three running lengthwise about a foot from the bottom. These pipes are drilled with small holes about one inch apart, and spray water boosted by air pressure over the parts in the wire baskets. This method quickly rinses the parts and eliminates the mineral bath in all but the most stubborn cases. The tank also is kept clean since no deposits accumulate on the walls or bottom and all residue is immediately flushed down the drain.

Saves Runway Markings

WHEN the airport improvement program at Hyannis Airport, Mass., called for sealcoating the existing runways, Manager Alton Sherman found to his dismay that the contractor's work wiped out all traces of his runway markings. Before the contractor got to the next runway, on which the usual markings were supplemented by the compass rose, Sherman worked out a system to preserve the markings at a minimum cost.

Using regular staging nails with double shoulders, Sherman marked all the critical points on each letter and compass heading by driving the nails into the asphalt down to the first shoulder. This left a convenient size marker above the sealcoating when the contractor finished his job. As an additional precaution, to insure locating the staging nails, the airport manager also placed stakes adjacent to the runway parallel with the top and bottom of the individual rows of markings.

By tying ordinary string to one staging nail and passing it around each successive nail in turn, Sherman had the entire letter layout ready for repainting in a short time.

Our thanks to Airport Manager Sherman for his contribution. We welcome participation in this page on the part of our readers.

Strut Jig

AT THE Texas Engineering and Manufacturing Co. in Dallas, a simple fixture has been developed for simplifying tear-down and build-up of hydraulic actuating cylinders. Working time on this job has been reduced by 50% and damage due to scarring the struts has been sharply reduced.

The unit consists of three basic parts: a base plate which is attached permanently to the work bench; a pin and bracket assembly for holding the fitting at the end of the cylinder; and a leather-padded throw-over clamp.

The pin and bracket assembly is attached to the base plate with two large set screws and can be easily moved to any one of three positions to accommodate various struts. As presently designed the single jig will handle two types of C-54 wing struts and the nose gear retracting unit.

Total Civil Aircraft Decline 5,087 in Year, CAA Reports

Civil aircraft registered with the Civil Aeronautics Administration declined 5,087 during the past fiscal year, according to an audit of CAA records published last week. CAA's "Statistical Study of U. S. Civil Aircraft" shows a total of 92,658 civil planes on record as of July 1, 1949, compared with 97,745 at the same date in 1948.

The sharp decline in civil aircraft indicates that current production is not in pace with the rate of attrition of lightplanes. Some of the drop may also be attributed to the correction of inaccuracies in CAA records attained during the past year.

Covering 36 years of recorded production, the study reveals that as of last July, there were 86,212 registered single-engined planes (93% of total) 4,521 twin-engined (5%), 20 three-engined, 552 four-engined, and one eight-engined aircraft. By year of production, the report shows that 35% of the civil aircraft were manufactured during 1946, 16% in 1947, 7% in 1948, and 2% during the first six months of 1949.

According to the company-by-company listing, "the nation's civil aircraft inventory is dominated by four producers: Piper, Aeronca, Consolidated Vultee (including Stinson) and Cessna. Together these companies account for more than half the July 1, 1949 total." Following are the ten leaders:

U. S. Civil Aircraft by Manufacturer, July 1, 1949

Manufacturer	Number of Aircraft	Percent of U. S. Total
Piper	18,724	20.2
Aeronca	11,810	12.7
Consolidated Vultee (Including Stinson)	10,246	11.1
Cessna	9,695	10.5
Taylorcraft	6,982	7.5
Luscombe	4,962	5.4
Fairchild	4,674	5.0
Ercoupe	4,383	4.7
Boeing (Including Stearman)	3,938	4.2
Beech	2,740	3.0
All Others	14,504	15.7
Total	**92,658**	**100.0**

Geographically, all but 13 states plus the territories have fewer planes than last year. The states gaining in registrations include Idaho, Illinois, Iowa, Maine, Montana, Nebraska, New Jersey, North Dakota, Oregon, South Dakota, Vermont, Washington, and Wyoming.

Despite a slight drop, California still leads the states in registrations with 10,452 or 11% of the total. Texas showed the biggest drop, losing 14% of its aircraft.

The complete inventory by states is shown in the accompanying tabulation.

The report may be obtained from the Office of Public Information, Civil Aeronautics Administration, Washington 25, D. C. It is planned to prepare a similar inventory every six months.

U. S. Aircraft by States

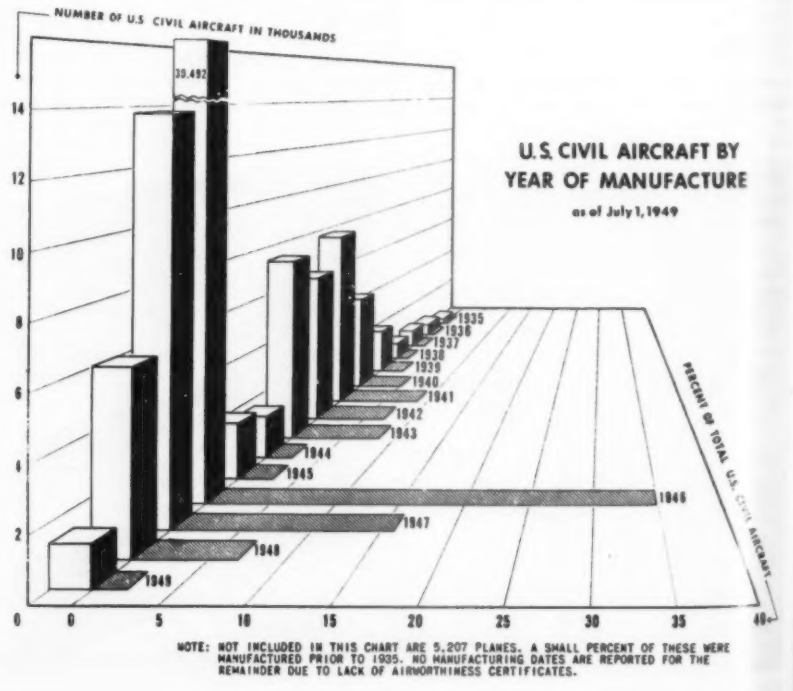
State	Number July 1, 1949	Number July 1, 1948	Increase or Decrease
TOTAL	**92,658**	**97,745**	**—5,087**
Alabama	938	1,003	—65
Arizona	1,175	1,248	—73
Arkansas	1,152	1,157	—5
California	10,452	10,639	—187
Colorado	1,276	1,370	—94
Connecticut	705	730	—25
Delaware	212	235	—23
Dist. of Columbia	656	877	—221
Florida	2,553	2,989	—436
Georgia	1,295	1,513	—218
Idaho	863	816	+47
Illinois	4,731	4,675	+56
Indiana	2,710	2,772	—62
Iowa	2,420	2,373	+47
Kansas	2,914	3,099	—185
Kentucky	835	888	—53
Louisiana	1,019	1,057	—38
Maine	649	641	+8
Maryland	844	1,115	—271
Massachusetts	1,417	1,454	—37
Michigan	4,285	4,717	—432
Minnesota	2,120	2,132	—12
Mississippi	686	726	—40
Missouri	2,150	2,432	—282
Montana	1,061	956	+105
Nebraska	1,788	1,697	+91
Nevada	396	427	—31
New Hampshire	292	318	—26
New Jersey	1,681	1,670	+11
New Mexico	745	806	—61
New York	4,460	4,827	—367
North Carolina	1,746	1,839	—93
North Dakota	1,182	972	+210
Ohio	4,180	4,672	—492
Oklahoma	2,317	2,479	—162
Oregon	1,775	1,771	+4
Pennsylvania	4,140	4,557	—417
Rhode Island	203	212	—9
South Carolina	691	836	—145
South Dakota	945	834	+111
Tennessee	1,135	1,308	—173
Texas	7,027	8,148	—1,121
Utah	498	549	—51
Vermont	207	205	+2
Virginia	1,411	1,483	—72
Washington	2,251	2,182	+69
West Virginia	649	685	—36
Wisconsin	2,148	2,163	—15
Wyoming	526	476	+50
Territories & Foreign	1,147	1,015	+132

Lightplane Altitude Mark

A new lightplane altitude record was established in a Piper Cub piloted by Mildred Zimmerman of Reading, Pa., on Sept. 26 when she reached an altitude of 26,400 ft. Her first attempt the previous day was ruled out by the National Aeronautic Association on a technicality. Previous lightplane record was 21,890 ft.

World Soaring Contest

Soaring experts will compete in Sweden for the world championship in July, 1950, according to an announcement from the National Aeronautic Association. Five teams from each country will be invited. Duration of the event is expected to be 14 days.



NOTE: NOT INCLUDED IN THIS CHART ARE 5,207 PLANES, A SMALL PERCENT OF THESE WERE MANUFACTURED PRIOR TO 1935. NO MANUFACTURING DATES ARE REPORTED FOR THE REMAINDER DUE TO LACK OF AIRWORTHINESS CERTIFICATES.

Stockholders Approve Aeronca Reorganization

Stockholders of Aeronca Aircraft Corp. have approved a plan for reorganizing the company. Refinancing will be effected by issuance of not more than $400,000 of 5.5% prior participating preferred stock at $100 par value. In addition, Aeronca will ask RFC for an additional $200,000 loan. Aeronca plans to offer deferred creditors $200,000 of preferred stock in compromise of their claims which total about $1,000,000. "Substantially all" of the deferred creditors have agreed to this proposal.

Fixed-Base Briefs

Kaman Aircraft Corp., Windsor Locks, Conn., has announced the appointment of **Chapel Distributing Co.**, as sales agents in North and South Carolina. A duster model helicopter has been delivered to the new agency for demonstration purposes.

A new Idaho skyway map should be ready sometime in November . . . **George Robbins Airport**, Cuero, Tex., had its official opening Oct. 1, at the same time, **United Air Service of Texas** began operations from the field.

The round-the-world Piper Super Cruiser previously owned by Clifford Evans has ben presented to the Smithsonian Institute in Washington for exhibit in the air museum. Presentation was made by W. T. Piper, president of Piper Aircraft Corp., Lockhaven, Pa. Dr. Alexander Wetmore, secretary of the Smithsonian, said upon receiving it that it would be flown to Chicago for storage until such time as the proposed museum becomes a reality. Plane was flown to the storage center by George Truman, Cliff's partner on the flight, who has also turned his plane, a sister ship, over to Piper for suitable disposal.

Non-Scheduled Flying Advisory Committee of the CAA will meet Oct. 26-27 in Oklahoma City. Committee had previously met in Washington, but decided to hold the Oklahoma City meeting in order for members to inspect the CAA training center there and become acquainted with regional personnel.

Kirk Scribner, sector chief pilot for Pan American Airway's Latin Division, won the **Middle Atlantic States soaring championship** at the conclusion of a three day meet at Beacon Field Airport near Alexandria, Va.

Helicopter Services of Hawaii has been organized to spray sugar cane crops following successful trials with a Bell utility model. Headquarters for the operation is Hanapepe, Kauai. Owners are John Batchelder, Robert Ballentine and Theodore James, all residents of the island. Equipment is leased from Helicopter Services of California.

Graham and Pollack Flying Service, of Kanawha County, W. Va., has been authorized by the state Public Service Commission to operate charter service between airports within the county.

Aviation Sales and Service

Flight Plans: A system which should boost the filing of flight plans at airports throughout the country was introduced recently at Love Field, Dallas, Texas, through cooperation of Southwest Airmotive Co. and the local CAA Airways Communications Station. It is a direct-line telephone from SAC's lobby to "Dallas Radio," providing pilots with quick access to flight plan data and spot weather information. CAA station chief M. E. Braden says the service has resulted in a marked increase in the number of flight plans filed by private flyers on Love Field. CAA officials think so much of the idea they are passing it around to other stations, several of which have already adopted the idea.

Dusting Tests: *A study of crop dusting now in progress at Gainesville, Fla., aimed to eliminate guesswork in laying dust, will probably bring out some valuable information on nozzles and cut-off systems. The methods being applied in this research by the University of Florida involve pans spread out on the ground, on which an orange-colored dust is spread from the air with different makes of equipment, at varying speeds and heights. Amount of dust is measured photometrically. Final results may bring the design of new equipment for specific types of dusting which are not done now.*

Swift Price Cut: A reduction of $610 in the list price of the Deluxe "Cabin Model" Swift 125 has been announced by Texas Engineering and Manufacturing Co., Inc., Dallas, Texas. New price of the plane is $3,685 f. a. f. Dallas lowest price at which it has even been offered. Officials say the reduction was made to cut inventories in preparation for the introduction of a new Swift in 1950 that will have more power and speed, more 'luxury.' It will probably sell in the $6,000 price range. TEMCO emphasizes that the special price for the 125 is for a limited time—until all now completed and on hand have been sold. When sold out, the 125 would be built on special order only, and the price would be over the $4,495 in effect before this reduction.

Iden Back With Taylorcraft: *R. E. "Duke" Iden, who first joined Taylorcraft in 1936, has returned after an absence of four years. He is announcing a new "Profit Making Program" to all distributors and dealers, and at the same time releases information on a new line of 1950 "T-Crafts." Prices are: 1950 Special Deluxe, 65 hp, $2,195 f.a.f. Conway, Pa. 1950 Custom Deluxe, 85 hp, $2,585 f.a.f Conway, featuring more baggage space, more visibility, 1950 Sportsman, 85 hp, $2950 f.a.b. Conway, same as the Custom Deluxe with extra equipment.*

New Computers: Two new computors—called 'Coairdinators'—are on the market now. Designed specifically for the private pilot, they are said to solve his typical in-flight or pre-flight problems without resort to the more complicated type of computor used in air transport. They can be had from the Halpin Coairdinator Co., 1616 K St., N. W., Washington, D. C.

Private Flying Abroad: After completing a lightplane tour of Europe, Frank S. Jonas, Piper export representative, reports ". . . GI interest in American personal aircraft very high. Many suggested that Cubs be sold through the Post Exchange, as are autos." He also reveals there are no hinderances or restrictions against business flying in Europe, with the exception of Germany. Gasoline is plentiful for American tourists and business men, and flight requirements call only for weather clearance prior to each take-off.

As for lightplane use in Europe other than by tourists, Jonas has this to say: "The influence of American lightplanes, which cannot be matched for economy and refinement by European makes, is seen in many aspects . . . Crop dusting, for instance, is being done for the first time in Europe by a fleet of Piper Cubs and a few helicopters through ECA aid.

"Most private flying is done through club activity, many of which are using surplus U. S. Army liaison planes, mostly Piper L-4's. Since the war over 100 Piper planes have been shipped to European countries."

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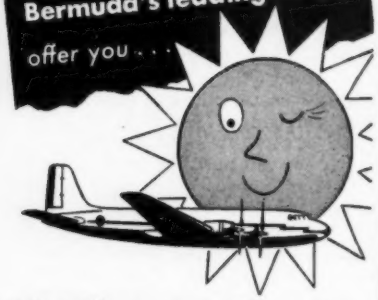

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Lightplane Record

Woody Jongeward and Bob Woodhouse, both former Navy pilots, landed at Yuma County Airport on Oct. 10, after having been in the air for 1,124 hours, 14 minutes and five seconds, setting a new lightplane endurance record. Flying in a four-place Aeronca, powered by an 85 horsepower Continental engine, they had hoped to stay in the air until Columbus Day (Oct. 12), but a burned-out magneto forced them to land five days after they broke the 1,008 hr. record set last spring by Bill Barris and Dick Riedel of Fullerton, Calif.

This, their third attempt on the record, was started on August 24. The pilots estimated they flew 89,920 miles at an average speed of a little more than 75 miles an hour. At no time did they fly more than 400 miles from their home base.

VA Relents in Ruling For GI Flight

The Veterans Administration has been forced by Congressional pressure to liberalize regulations which will permit a veteran to resume a course in flight training or transfer from some other course to instruction in some field of areonautics.

After passage of the Veterans Administration's appropriation bill, the Administrator promulgated Instruction 1-A which brought into play the controversial "complete justification" clause with reference to a change in course. Administrator Carl Gray withdrew the instruction after being called before the Senate Committee on Education and Labor. The same committee later reported a bill, S. 2596, which specifically eliminates "flight training" from the list of so-called avocational courses.

Under a new instruction 1-B, the VA Administrator announced that effective November 1, any veteran desiring additional education or training benefits, or any veteran who desires a change of course or change of institution, will be required to show in his application the name of the course and the institution in which he wishes to pursue such course.

In addition to proving physical fitness for a course in flight training, he would be required to show "(1) complete justification that such course is in connection with his present or contemplated business or occupation or (2) a certificate in the form of an affidavit by the veteran supported by corroborating affidavits by two competent, disinterested persons that such flight training will be useful to him in connection with earning a livelihood, which affidavits, in the absence of substantial evidence to the contrary, will be accepted as constituting compliance with the proviso."

Airlines Study Traffic Role Of 600 Travel Agents

By Eric Bramley

The domestic airlines, through the Air Traffic Conference, are about to get their first good look at the production and efficiency of the travel agents with whom they do business.

Although the travel agents (some 1,600 of them in the U.S.) comprise the airlines' "secondary sales force," the carriers have had difficulty in appraising the overall results produced by this sales force, on which they spend thousands of dollars annually. The reason it has been difficult to check is because each airline deals individually with its authorized agents—and keeps agency results to itself for competitive reasons.

Now, through a survey, ATC hopes to get the answers to a number of interesting questions, and the answers could lead to important changes in the agency program.

There have been numerous problems connected with agents and their production. Not the least of these has been a complaint by some agents that the 5% commission paid on ordinary domestic business is not high enough, and that domestic tours, which pay 10%, are surrounded by too much red tape. It has been impossible to determine how widespread these complaints have been, and the survey may furnish the answers.

Sales Survey. Some 600 agents in 10 cities are in the process of answering a questionnaire from M. F. Redfern, executive secretary of ATC. The questionnaire asks them to list, for the period January 1 through June 30, 1949, their gross airline ticket sales, number of airline tickets sold and gross income from commissions on airline ticket sales.

Even more significantly, it asks for the "percent of commissions on total airline ticket sales to commissions from sales of other forms of transportation," and "percent of commissions on airline ticket sales to other sources of income if any (excluding commissions from sales of other forms of transportation)."

At the same time, the airlines in these cities are being asked to submit data on what percentage of their revenue came from agents and how much of this was at 5%, 7½% (international) and 10%.

It's impossible to forecast what final conclusions may be drawn from the questionnaires. However, there are a number of possibilities. Suppose, for example, that it was discovered that agents in Kansas City produced only a very small percentage of total airline business for the period. The question might arise whether this production was worth the expense.

Redfern estimates that it costs one airline several hundred dollars a year to service one agent, including advertising, displays, literature, personal calls, taking the agent to lunch, etc. Discovery of a low percentage would certainly result in more heat being put on the agents to produce.

Competition. The survey might also show that only a small percentage of the agents' commissions was coming from airline sales, against a large proportion from other forms of transportation. This might lead to a conclusion that there are too many authorized agents in the city—that there's too much competition between them. Then again the conclusion might be that the agents' commission is too low.

In short, the survey will determine what the agents are producing, and how it compares with their production for other forms of transport. This has not been known on an industry basis since the present agency program started in 1945.

There are certain other problems in the agency picture, not connected with the survey. At the present time, each airline signs its own contract with each agent, and the agent must report to that airline every two weeks on business sold, and must make a remittance. In addition, the agent must report if he has done no business.

Thus, an agent who is representing several airlines has a stack of contracts, and also a large amount of paperwork to do every two weeks. This situation has resulted in numerous complaints.

ATC is known to be studying this setup, but industry sources have indicated that there is no unanimity of opinion among the airlines on what should be done. Proposals have been made to have a standard ticket for agents, so they wouldn't have to carry so many different ticket stocks. More important, there has been a proposal that agents sign one standard overall contract, and make their reports and remittances to a central clearing house, such as ATC's Chicago clearing house. There have been indications that several airlines might adopt such a procedure even in the absence of unanimous agreement.

Four Airlines Dominate South Atlantic Air Traffic

Although complete figures for air traffic across the South Atlantic are not available, American Aviation has obtained accurate figures showing eastbound traffic generated from Rio de Janeiro revealing that the major share of traffic is being shared by Panair do Brasil, the Brazilian affiliate of Pan American Airways; Scandinavian Airlines System; Air France; and KLM.

Seven air carriers are operating scheduled service between Rio and Europe, while an eighth airline, Iberia (Spanish), operates between Madrid and Buenos Aires without commercial rights in Brazil.

Paris is the most popular destination for European-bound traffic with Lisbon a good second.

The following is a table of traffic from Rio with the destination points and names of carriers, for the period July 1, 1948, through June 30, 1949. It should be noted that these figures are for passengers boarded at Rio only and do not include transit traffic through Rio generated at Montevideo, Buenos Aires or Santiago. But Rio has always been the focal point of traffic in South America for trans-Atlantic travel between there and Europe.

From Rio to:	Panair Do Brasil	Air France	SAS	KLM	BSAA	FAMA (Arg.)	Altitalia (Italy)	Total
Paris	575	995	57	9	....	34	....	1670
Lisbon	768	....	135	152	111	4	....	1170
Geneva	....	....	501	233	....	....	....	734
Rome	606	....	26	....	....	50	52	734
London	214	....	24	12	293	31	....	574
Amsterdam	....	....	7	518	....	....	....	525
Madrid	120	67	5	11	....	44	....	247
Zurich	122	....	1	12	12	....	....	147
Stockholm	5	1	135	3	....	....	....	144
Copenhagen	....	3	129	4	....	....	....	136
Dakar	57	25	5	4	9	....	....	100
Istanbul	61	....	....	....	....	....	....	61
Brussels	7	10	17	17	....	....	....	51
Marseille	....	40	....	....	....	....	....	40
Frankfurt	1	....	....	8	....	....	....	9
Oslo	....	....	8	1	....	....	....	9
Helsinki	....	....	9	....	....	....	....	9
Beyrouth	....	....	1	4	....	....	....	5
All Others	2	....	4	....	....	....	....	6
Total	2538	1141	1064	988	425	163	52	6371

Luggage Standards Key to Reduced Damage Claims

The cause for passenger luggage damage may lie with the luggage itself rather than in rough handling, according to the National Bureau of Standards, which recently completed laboratory and service tests of hand baggage to develop the technical information required as a basis for setting a luggage commodity standard.

Such a standard has been requested by the American Association of Baggage Traffic Managers, the Air Traffic Conference of America and the National Bus Traffic Association.

The Bureau of Standards said its study confirmed the experiences of common carriers, which indicate that a major proportion of the annual loss and damage is caused by the use of luggage that either was not intended by the manufacturer for ordinary baggage service, or which has easily remediable defects in materials or construction.

The study stated that the durability of hand luggage has become a matter of serious concern to travelers, manufacturers and distributors of luggage, and the transportation industry, because of the heavy annual bills for loss and damage to such luggage.

Copies of the study, National Bureau of Standards Miscellaneous Publication 193, are obtainable from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 15c each.

P. O. Issues Air Parcel Post Acceptability Rules

The Post Office Department has issued instructions on what may and may not be carried via air parcel post:

(1) All materials prohibited in domestic surface mails are also prohibited in the air mail service.

(2) Non-hazardous materials and materials not subject to damage by low temperature may be accepted for air parcel post if properly packed; packing similar to that for regular parcel post should be used; material susceptible to damage by changes in temperature or atmospheric pressures must be adequately protected by proper packing and any other necessary measures, and cut flowers and similar matter may be protected by insulating.

(3) Day-old fowl, honey bees, alligators, and other matter subject to damage by low temperatures are not acceptable for air parcel post, but queen bees and their attendant bees may be accepted.

(4) Photo flash lamps securely packed and cushioned in a strong outside container are acceptable if no other matter is contained in the same parcel.

(5) Inflammable liquids or substance with flash point of 80 degrees F. (tag open tester) or lower, or inflammable solids or other materials requiring a yellow caution label, except motion picture film in ICC metal containers and manufactured articles of pyroxylin plastics properly packed, are not acceptable.

(6) Magnetic materials containing permanent with unconfined fields are not acceptable.

Over the Counter

By Eric Bramley

Sales Promotion

INTERESTING news notes regarding travel agents: **R. W. Hemphill,** head of **Hemphill World Cruises,** in an article in the Sept. 25 issue of *The Travel Agent* asserts that the airlines' emphasis on speed has hampered the selling of air tours and has made the travel agent's job more difficult. Says Hemphill: "We think airlines have talked too much about speed. This has made our tour prospects associate air travel with haste, worry and urgency. Our tourists want to get away from all that. They are more concerned with leisure, comfort and safety. So we must break down the speed publicity and start all over again." . . . **Capital Airlines** is favoring a greater commission for the travel agent for promoting and developing pleasure and vacation business, plus simplification of procedure to make it easier for agents to do business with the airlines.

With the airlines driving hard for business, employes' sales contests are getting bigger and better. **Pan American Airways' Latin American Division,** for example, has started its biggest contest, which runs from Oct. 1 to Nov. 30. There are $1,500 in cash prizes and over $10,000 worth of travel awards. Quotas have been set for all stations (except Miami and New Orleans, because they're part of the U. S. sales office network), which are divided into four groups according to size. Award for top station in first group will be $150, with $100, $75 and $50, respectively, for the next three. Money can be used for a station party or any other purpose agreed upon. Top individual prize in each group will consist of two tickets to any point served by LAD, with all expenses paid for one week and full pay for the week and for travel time. Second prize will be two tickets for an all-expense weekend Clipper trip, and third will be a pair of tickets to any city on LAD, to be used by the winning employe during his next vacation.

United Air Lines, as we've reported, will stress dependability in its fall-winter advertising, and the campaign has already started. For a case study of UAL advertising and promotion, see *Tide* magazine, Sept. 30. Interesting points in the article: UAL killed its Mary Mainliner ads because stewardesses thought the copy sounded unnatural, then started it again after finding a stewardess who could write the copy; UAL is taking the unusual step of copyrighting the ads in the current dependability campaign—ads that are now explaining pressure-pattern flying. Reason, the article says, is that UAL "hopes to preempt that particular use of the common airline theme of dependability; and it also hopes that the copyright may add credibility and conviction to the ads in the minds of readers."

Passenger Service

CANADIAN Pacific Air Lines is adding Chinese stewardesses on its trans-Pacific service. Each CPAL Canadair IV flying the route from Vancouver to the Orient will carry a Chinese girl as well as a Canadian stewardess to look after language problems and make Oriental passengers feel at home. First four girls are now in training.

New Services and Traffic

BRANIFF Airways has increased its 25% discount DC-4 tourist service between the U. S. and South America from one to two round-trips daily . . . **Western Air Lines** will inaugurate service into Ontario, Calif., on Oct 27, the same day it resumes winter schedules to the resort city of Palm Springs . . . CAB ruled against **Continental Air Lines'** DC-3 coach operation between Denver and Kansas City and the service, inaugurated last Feb. 17, stopped Sept. 30 . . . **American Overseas Airlines** on Nov. 1 will start the first Stratocruiser service to the continent of Europe when it extends present New York-Shannon-London flights to Frankfurt, Germany, four flights weekly . . . **Scandinavian Airlines System** on Oct. 26 starts twice-monthly DC-6 service Copenhagen-Bangkok via Zurich, Rome, Damascus, Karachi and Calcutta. Passengers flying SAS from the U. S. will remain overnight in Copenhagen at company expense before embarking the next day for points on the Bangkok route . . . **Canadian Pacific Air Lines** has opened once-weekly service with Canadair IV's between Vancouver and Tokyo and Hong Kong . . . **Piedmont Airlines** has inaugurated service into Fayetteville, N. C., and now serves 32 cities . . . **Trans-Texas Airways** has added a third round-trip between Houston and San Antonio via Victoria and Beeville . . . **Wisconsin Central Airlines** has completed negotiations with the city of Chicago to move its airport ticket counter from the old terminal building to the new building, next to the Marshall Field restaurant . . . **Pan American Airways** has been authorized by CAB to serve Nice, France, as a co-terminal point with Marseilles for a six-month period ending Mar. 29, 1950.

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WANTED: Male bookkeeper intimately familiar with CAB's accounting practices, forms, reports, and also familiar with mail vouchers. Keith Kahle, President, Central Airlines, Inc., 6109 Camp Bowie Blvd., Fort Worth, Texas.

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Are you qualified to fly the Atlantic, to instruct, to fly charter, to dust, or to help organize a new airline? We can help you find the job you need, or the man you need. No registration fee. PILOTS EMPLOYMENT AGENCY, Box 152, AA-10, Whippany, N. J.

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New low rate for display advertising in the classified pages of AMERICAN AVIATION are listed in the box above.

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U. S. Airline Balance Sheet Data as of June 30

AIRLINES	TOTAL ASSETS	CURRENT ASSETS	INVESTMENTS & SPECIAL FUNDS	OPERATING PROP. & EQUIPMENT	DEFERRED CHARGES	CURRENT LIABILITIES	LONG-TERM DEBT	DEFERRED CREDITS	OPERATING RESERVES	CAPITAL STOCK	SURPLUS
American	$ 124,140,773	$ 40,013,439	$ 15,873,351	$ 64,746,260	$ 2,043,311	$ 20,999,945	$ 40,000,000	$ 2,672,185	$	$ 46,452,835	$ 14,015,808
Amer. O'Seas	29,953,691	15,882,838	2,504,679	11,060,551	505,623	3,463,676	5,000,000	3,362,230	509,322	1,749,825	15,666,077
Braniff	14,256,150	5,466,704	194,130	7,234,789	1,143,819	3,024,917	3,613,585	199,932	19,819	2,500,000	4,897,896
Capital	14,909,142	7,481,396	72,746	5,115,524	414,834	5,665,113	7,685,000	259,867	31,520	479,083	788,558
Caribbean	427,970	99,416	730	275,510	37,151	66,942	1,977	16,966	49,542	94,538	198,005
C & S	7,084,028	4,849,392	21,422	1,719,246	419,655	1,496,055	. . . .	166,453	120,000	4,893,645	407,876
Colonial	3,532,970	2,387,449	43,198	1,064,238	38,084	826,287	50,000	88,287	60,609	515,600	1,992,187
Continental	4,440,225	1,768,738	9,925	2,313,873	347,439	1,126,173	1,175,000	36,624	. . . .	386,757	1,715,672
Delta	13,402,141	5,152,163	154,804	7,731,911	363,263	3,524,733	2,925,000	185,610	56,305	1,500,000	5,210,494
Eastern	57,147,830	38,997,770	1,643,931	14,260,742	2,245,386	17,185,890	8,000,000	1,680,100	2,295,293	2,395,572	25,590,975
Hawaiian	2,781,292	1,453,969	53,275	1,110,545	37,604	409,320	. . . .	50,869	. . . .	1,750,000	571,104
Inland*	779,699	614,801	3,035	48,276	5,030	243,904	. . . .	39,280	. . . .	164,218	332,298
MCA	3,186,808	2,111,664	39,837	940,860	89,698	1,145,355	124,101	46,089	21,716	396,827	1,452,721
National	9,634,465	3,548,109	36,985	5,776,079	266,682	1,641,872	1,263,158	381,717	152,222	1,000,000	5,195,496
Northeast	5,254,001	1,735,270	47,120	3,308,154	151,584	387,079	1,511,000	99,271	98,251	2,135,155	1,023,245
Northwest	36,213,760	12,566,769	3,231,409	19,532,423	742,905	13,771,088	. . . .	1,274,031	. . . .	17,958,080	3,210,561
PAA System	162,377,220	51,514,841	10,444,370	75,156,497	25,261,403 **	20,104,636	81,128,049	23,154,232	3,166,284	1,000,000	33,824,018
Panagra	18,264,945	10,819,649	469,505	5,856,901	1,118,891	3,776,384	2,000,000	2,313,714	2,824,154	4,750,000	2,600,692
Trans Pacific***	671,089	60,062	481	319,461	116,289	240,138	118,124	18,698	14,586	871,033	-591,489
TWA	85,063,298	32,783,335	4,719,274	41,891,083	5,359,805	17,811,578	46,181,398	8,330,631	. . . .	12,123,360	546,331
United	98,256,444	33,304,610	2,971,111	57,968,527	2,249,029	16,915,664	29,840,000	5,480,278	. . . .	30,172,707	8,703,319
Western*	10,975,329	2,631,805	409,871	7,310,531	410,387	3,356,676	2,939,929	303,650	. . . .	525,164	3,849,910
TOTALS	702,753,270	275,243,789	42,945,189	334,741,981	43,367,872	137,183,425	233,556,321	50,160,714	9,419,623	133,814,459	131,201,714

* Operations of Western and its subsidiary, Inland, should be considered as consolidated, although reports are filed separately as shown here.
** Includes $3,280,892 in estimated mail pay in excess of amount accrued under temporary and final rates under review.
*** Began certificated operations June 6, 1949.

U. S. Feeder Airline Balance Sheet Data as of June 30

AIRLINES	TOTAL ASSETS	CURRENT ASSETS	INVESTMENTS & SPECIAL FUNDS	OPERATING PROP. & EQUIPMENT	DEFERRED CHARGES	CURRENT LIABILITIES	LONG-TERM DEBT	DEFERRED CREDITS	OPERATING RESERVES	CAPITAL STOCK	SURPLUS
All American	$ 2,982,517	$ 583,278	$ 383,017	$ 1,666,257	$ 349,965	$ 514,052	$ 684,000	$ 3,113	$ 4,223	$ 513,660	$ 1,263,468
Challenger	617,700	302,460	380	214,006	54,631	367,677	4,617	25,004	. . . .	294,046	-71,644
Empire	584,800	197,328	123,611	222,543	30,454	88,301	. . . .	4,505	. . . .	562,289	-70,295
Monarch	759,665	411,495	9,448	295,189	43,533	297,500	. . . .	8,480	. . . .	468,540	-14,356
Piedmont	1,487,691	547,485	189,197	577,786	133,296	623,118	. . . .	11,322	31,744	959,575	-138,067
Pioneer	1,191,320	715,570	511	425,715	49,523	315,757	. . . .	10,068	. . . .	90,227	775,269
Robinson	1,130,404	185,861	200	610,912	333,431	394,455	646,702	3,333	. . . .	174,021	-89,107
Southern*	601,523	110,127	29,651	233,119	182,993	118,895	25,000	134	. . . .	492,700	-42,735
Southwest	1,263,430	* 783,644*	3,966	415,505	60,315	255,349	96,690	8,209	34,072	323,830	545,250
Trans Texas	930,430	438,858	47,234	328,479	76,368	483,601	4,026	1,796	. . . .	900,000	-458,993
West Coast	1,087,634	616,798	. . . .	348,855	121,982	166,958	160,000	7,515	2,916	187,371	562,875
Wis. Central	970,943	296,658	2,410	363,541	242,955	373,026	. . . .	24,936	4,976	155,000	413,004
TOTALS	13,608,057	5,189,562	789,625	5,701,907	1,679,446	3,998,689	1,621,035	108,415	77,931	5,122,259	2,672,199
Los Angeles	349,333	85,436	10	206,942	Helicopter Mail Service 55,201	66,331	. . . .	. . . .	. . . .	294,000	-10,999

* Began operations June 10, 1949.

U. S. Domestic Airline Revenues & Expenses for January-June

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRANSPORT REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
American	$ 47,662,634	$ 40,809,389	$ 2,690,968	$ 826,058	$ 2,703,621	$ 499,404	$ 79,794	$ 43,659,668	$ 20,422,687	$ 23,236,981	$ 4,002,966
Braniff	6,916,125	5,471,368	1,133,046	122,258	109,513	52,435	29,508	6,927,615	3,369,637	3,557,978	-11,490
Capital	12,562,473	8,918,070	2,333,256	245,357	683,062	51,545	125,529	12,217,144	5,582,638	6,634,506	345,329
Caribbean	409,487	289,746	89,406	. . . .	17,944	1,714	3,180	392,818	168,595	224,223	16,669
C & S	4,159,447	3,104,452	857,288	88,739	63,711	37,039	1,062	3,800,095	1,601,258	2,198,837	359,352
Colonial	2,039,427	1,397,709	588,983	11,635	24,252	11,709	3,117	1,980,650	892,656	1,087,994	58,777
Continental	2,514,639	1,690,472	689,251	18,753	41,413	14,305	20,944	2,725,656	1,254,105	1,471,551	-211,017
Delta	8,119,496	6,772,328	947,478	105,969	166,875	92,751	5,820	7,600,996	3,509,980	4,091,016	518,500
Eastern	37,502,303	33,724,351	1,651,403	581,099	816,970	554,021	101,394	32,733,041	16,913,133	15,819,908	4,769,262
Hawaiian	1,829,547	1,559,892	16,727	69,050	131,339	40,461	7,521	1,658,215	661,137	997,079	171,332
Inland*	1,232,438	870,688	326,974	10,892	14,375	6,880	1,000	1,054,508	430,964	623,545	177,929
MCA	3,639,565	2,822,283	692,064	33,700	41,896	23,511	18,467	3,395,960	1,439,864	1,956,095	243,606
National	7,243,178	5,716,947	1,166,900	72,498	136,130	120,542	3,998	6,376,292	3,277,647	3,098,646	866,886
Northeast	2,544,448	1,712,802	762,472	16,778	38,261	5,995	4,241	2,648,695	1,268,883	1,379,812	-104,247
Northwest	11,886,614	9,559,254	1,443,159	264,247	470,770	79,115	22,931	12,129,402	5,322,315	6,807,087	-242,788
Trans Pacific**	125,413	45,148	. . . .	29	931	2,143	76,298	293,447	93,576	199,870	-168,034
TWA	30,611,757	25,175,932	2,957,070	751,002	1,097,364	313,201	137,857	30,954,097	14,854,080	16,100,017	-342,341
United	40,530,639	33,697,057	3,135,965	957,033	1,946,825	361,565	179,755	40,513,013	18,447,431	22,065,582	17,627
Western*	4,050,187	2,907,480	926,922	37,142	53,607	21,653	52,865	4,038,178	1,925,834	2,112,344	12,009
TOTALS	225,579,817	186,245,378	22,409,332	4,212,239	8,558,861	2,290,069	875,281	215,099,490	101,436,420	113,663,071	10,480,327

* Operations of Western and its subsidiary, Inland, should be considered as consolidated, although reports are filed separately as shown here.
** Began certificated operations June 6, 1949.

U. S. Domestic Airline Traffic for July

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor	Mail Ton-Miles ***	Express Ton Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane Miles	Scheduled Miles	% Scheduled Miles Completed
				%									
American	295,697	136,667,000	212,143,000	64.42	602,155	777,634	2,031,715	16,084,252	29,005,515	55.45	4,981,877	4,845,440	99.54
Braniff	53,711	17,968,000	35,648,000	50.46	83,934	58,194	94,868	1,957,171	4,302,569	45.49	1,047,061	1,048,769	99.63
Capital	125,090	36,987,000	64,842,000	57.04	73,982	114,075	501,782	4,225,140	8,147,365	51.86	1,887,594	1,812,385	98.76
Caribbean	7,344	556,000	1,205,000	46.14	525	. . . .	2,808	48,077	126,569	37.98	49,039	49,131	99.81
C & S	27,373	9,428,000	18,643,000	50.57	37,611	42,551	55,244	1,040,121	2,173,212	47.86	681,684	681,020	99.63
Colonial	22,713	5,607,000	9,113,000	61.53	7,283	6,446	7,506	571,985	1,203,133	47.54	432,430	396,707	99.78
Continental	18,266	6,479,000	14,686,000	44.11	16,617	8,583	27,148	672,326	1,565,961	42.93	509,900	500,185	99.99
Delta	45,339	17,086,000	32,493,000	52.58	59,131	50,023	144,978	1,894,656	4,508,617	42.02	1,121,167	1,117,743	99.88
Eastern	192,672	81,145,000	150,866,000	53.79	328,841	235,493	546,197	9,335,960	21,225,752	43.98	4,441,238	4,449,747	99.59
Hawaiian	31,735	4,317,000	6,229,000	69.30	5,437	7,796	50,754	418,942	696,775	60.13	280,784	220,279	98.62
Inland*	8,657	3,303,000	5,150,000	64.14	10,005	5,239	11,130	342,832	544,234	62.99	256,844	258,552	99.27
MCA	31,161	9,161,000	16,429,000	55.76	24,719	17,673	26,615	946,108	1,877,614	50.39	782,339	770,350	99.86
National	25,751	13,779,000	33,383,000	41.28	36,464	35,192	65,235	1,536,503	4,686,302	32.79	919,089	921,785	99.50
Northeast	40,317	7,708,000	13,521,000	57.01	6,276	7,242	16,829	726,998	1,369,579	53.08	409,016	393,982	97.13
Northwest	73,879	44,332,000	66,198,000	66.97	187,193	125,423	295,246	4,864,570	8,217,089	59.20	1,770,680	1,679,804	99.72
Trans Pac.**	7,291	1,114,000	2,625,000	42.06	. . . .	. . . .	2,061	84,014	272,867	30.79	100,538	89,470	96.18
TWA	136,811	92,523,000	142,587,000	64.89	625,608	346,452	778,652	10,638,080	18,039,132	58.97	4,539,483	4,410,501	99.63
United	224,540	131,168,000	177,562,000	73.87	787,796	436,809	1,693,346	15,503,932	26,446,345	58.62	4,942,331	4,825,549	99.27
Western*	26,709	10,496,000	21,527,000	48.76	27,282	23,590	27,143	1,081,172	2,306,610	46.87	625,438	614,526	99.69
TOTALS	1,395,056	629,834,000	1,024,850,000	61.45	2,920,899	1,898,415	6,379,257	71,972,839	136,715,238	52.64	29,780,532	29,085,925	99.46
					Figures for Trans Pacific from June 6-30, 1949								
Trans Pac.**	5,154	757,000	1,827,000	41.43	. . . .	. . . .	1,258	57,383	150,747	38.07	62,680	58,342	96.09

* Operations of Western and its subsidiary, Inland, should be considered as consolidated, although reports are filed separately as shown here.
** Began certificated operations June 6, 1949.
*** Includes air parcel post.

U. S. Feeder Airline Traffic for July

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor	Mail Ton Miles	Express Ton Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane Miles	Scheduled Miles	% Scheduled Miles Completed
				%									
All American	11,307	1,547,000	5,834,000	26.52	2,300	4,421	. . .	158,015	554,589	28.49	243,081	256,577	94.42
Challenger	3,792	976,000	2,740,000	35.62	3,420	2,093	4,927	108,467	293,210	36.99	137,014	141,732	96.67
Empire	3,769	702,000	2,006,000	35.00	1,749	1,320	. . .	67,829	198,015	34.25	95,567	93,620	99.04
Monarch	3,396	832,000	2,821,000	29.49	2,085	1,609	10,185	97,397	254,305	38.30	156,706	158,224	99.04
Piedmont	9,582	2,044,000	5,854,000	34.91	2,285	3,316	3,374	204,577	613,763	33.36	278,566	279,084	99.73
Pioneer	9,430	2,589,000	8,223,000	31.48	5,903	2,835	6,070	275,160	671,490	41.57	342,567	345,174	99.08
Robinson	3,808	564,000	1,495,000	37.73	1,372	. . .	1,458	50,919	153,498	33.17	78,729	80,835	96.53
Southern*	1,189	182,000	1,774,000	10.26	1,286	1,456	. . .	20,069	126,441	15.88	83,550	85,608	97.60
Southwest	11,938	2,173,000	4,428,000	49.07	3,535	2,878	5,379	229,752	443,059	51.86	210,880	211,772	99.34
Trans-Texas	4,661	1,119,000	5,510,000	20.32	4,202	1,187	1,504	119,073	373,002	31.92	262,400	262,408	100.00
West Coast	8,660	1,117,000	2,490,000	44.85	801	1,432	. . .	101,720	259,007	39.27	118,582	116,948	99.25
Wis. Central	3,867	609,000	1,203,000	50.64	1,545	1,681	. . .	59,198	125,102	47.32	139,466	142,848	97.52
TOTALS	74,813	14,454,000	44,378,000	32.57	30,563	24,266	32,897	1,492,176	4,264,951	34.99	2,146,608	2,174,830	98.39
						Helicopter Mail Service							
Los Angeles	. . .	. . . .	. . . .	. . .	3,177	. . .	. . .	3,177	10,500	30.26	27,486	27,853	98.68
						Figures for Southern Airways from June 10-30, 1949							
Southern*	242	36,000	410,000	8.78	668	709	. . .	4,817	29,942	16.09	19,790	20,622	95.96

* Began operations June 10, 1949.

U. S. Domestic Airline Revenues & Expenses for April-June

Airlines	Total Operating Revenues	Passenger Revenues	Mail Revenues	Express Revenues	Freight Revenues	Excess Baggage Revenues	Non-Scheduled Transport Rev.	Total Operating Expenses	Aircraft Operating Expenses	Ground & Indirect Expenses	Net Operating Income
American	$ 27,078,609	$ 23,504,487	$1,312,823	$ 424,878	$1,499,994	$ 266,518	$ 37,470	$ 22,768,485	$10,921,854	$11,846,631	$ 4,260,124
Braniff	3,836,875	3,105,515	579,877	60,033	57,176	30,447	7,885	3,481,489	1,710,588	1,770,901	355,386
Capital	7,982,236	5,599,758	822,201	121,510	366,109	31,314	61,584	6,383,427	2,967,657	3,415,771	698,809
Caribbean	200,236	139,944	45,049	. . . .	9,152	707	1,137	191,756	79,809	111,866	8,561
C & S	2,342,167	1,799,854	434,619	45,474	36,993	20,894	1,062	1,904,397	815,460	1,088,937	437,770
Colonial	1,195,559	840,725	320,399	7,358	16,286	6,323	2,347	1,030,882	482,500	548,382	164,677
Continental	1,417,492	989,983	152,842	10,344	23,958	8,149	6,976	1,375,838	648,387	727,450	34,654
Delta	4,057,104	3,326,641	534,291	54,298	90,886	39,501	4,931	3,862,262	1,814,137	2,048,124	194,842
Eastern	18,280,770	16,493,337	773,244	280,566	396,458	233,817	61,898	16,558,836	8,496,196	8,062,640	1,721,934
Hawaiian	958,615	806,653	9,471	37,855	73,945	21,889	5,701	845,721	338,826	506,895	112,894
Inland*	682,058	506,386	157,129	4,900	8,680	4,203	. . . .	546,278	235,284	310,995	135,779
MCA	1,984,930	1,605,081	307,045	17,986	24,538	13,047	12,558	1,733,904	755,650	978,253	251,027
National	3,446,263	2,468,691	817,004	29,894	65,953	47,524	2,465	3,296,723	1,632,261	1,664,463	149,539
Northeast	1,516,732	1,064,048	413,134	8,415	23,682	4,190	755	1,429,183	701,432	727,751	87,548
Northwest	7,448,192	6,183,878	768,207	141,930	256,579	47,982	17,060	6,299,563	2,804,016	3,495,546	1,148,629
Trans Pac.**	90,905	45,148	. . . .	29	931	1,903	42,402	205,184	62,400	142,783	-114,280
TWA	17,969,602	15,046,808	1,522,707	390,233	638,185	176,631	91,915	15,660,545	7,710,914	7,949,631	2,309,057
United	23,883,944	20,382,420	1,588,673	464,871	995,236	206,833	99,044	20,705,633	9,426,902	11,278,731	3,178,311
Western*	2,164,239	1,581,939	468,515	16,811	28,747	10,939	38,714	1,957,909	964,604	993,305	206,330
TOTALS	125,579,528	105,491,296	11,227,230	2,117,355	4,573,484	1,172,811	495,904	110,238,015	52,568,877	57,669,055	15,341,591

* Operations of Western and its subsidiary, Inland, should be considered as consolidated, although reports are filed separately as shown here.
** Began certificated operations June 6, 1949.

WINGS OF YESTERDAY

25 Years Ago

Continuous expansion of the aerial survey business of Fairchild Aerial Camera Corp. led to the formation of two subsidiary companies. The first, known as Fairchild Aerial Surveys, Inc., was to handle the aerial survey business, while the other, Fairchild Flying Corp., was to direct operations involving contracts for flying of every description and own and operate the planes formerly owned by the parent organization.

•

Donald W. Douglas, designer of the Douglas World Cruiser, was developing a trans-Pacific airplane with which it was proposed to fly from San Francisco to Manila, via Honolulu, a distance of 8,760 miles in six flights. The design contemplated making the first jump from San Francisco to Honolulu, 2,395 miles, without refueling in mid-ocean.

•

The second annual meeting of delegates and members of NAA was held in Dayton, Ohio, Oct. 2-4, 1924. Godfrey L. Cabot was elected president.

10 Years Ago

(In American Aviation)

New York Municipal Airport under construction for two years and costing an estimated $40,000,000 was to be dedicated October 15.

•

The Post Office Department decided not to contract for further experimental feeder routes, except for five air star routes authorized by Congress, clearing the way for issuance of all airline route certificates by CAA.

•

Hearings had begun on the application of Pan American Airways to operate from San Francisco to Auckland, N. Z., via Los Angeles, Honolulu, Canton Island and Noumea, New Caledonia.

LETTERS

Godfrey & Reality

To the Editor:

On Mr. Arthur Godfrey's television show last night, he told of his tour in South America.

Most interesting were his figures, 18,000 miles traveled in 52 hours of flying.

Mr. Rickenbacker has a loyal rooter in Godfrey. Mr. R. and his boys will have to smoke a powerful lot of Chesterfields to even the score.

Seriously though, you were on that tour. Did you average 347 mph? If so, it would only be fair to the other operators of L-749 equipment to let them in on the secret—how to get another 50 mph out of your Constellation.

CAPT. JOHN D. STEERS
Master Pilot
Pan American World Airways
New York

(Editor's Note—Don Arturo Godfrey must have had too many pisco sours in Peru. That 18,000-mile figure he used on his television show has no relation to reality. The estimated mileage was 15,700 in 52 hours and a fraction. And the Chesterfields which Eastern is smoking were bought in the U. S. A., Don Arturo having forgotten to put on board a big box of cartons of Chesterfields which he planned to smoke and give away on the trip. He had a ukulele, a full-size wardrobe trunk, recording apparatus and cameras—but no smokes. He had to smoke some of our Philip Morris'.)

Airport Letter Protested

To the Editor:

I must take exception to the letter written by Mr. Eberhardt, and published in "Letters to the Editor" in the *American Aviation*, of October 1. The Greater Cincinnati Airport of Covington, Kentucky, has taken pride in its rest rooms, and also in its program to eliminate unnecessary tipping. Mr. Eberhardt stated that there was no stopper available for the wash bowl, and that because the wash room attendant supplied one, it was necessary for him to tip the attendant a dime.

For the information of those who may be misguided by this unwarranted criticism, I would like to explain our position. In order to supply the passengers with all the rest room facilities, we purchased rubber stoppers with chains, and placed them on all wash room bowls in the passenger rest rooms, and also in the pilots and employees rest rooms. Within 24 hours after they were placed in the pilots and employees rest rooms they were stolen, chain and all. Within 36 hours they were all stolen in the passenger rest room.

Thinking it may be a group of children, we replaced them the following day and again they were stolen within 24 hours. Naturally, it is impossible to place rubber stoppers with chains every 24 hours. So thinking of a satisfactory arrangement, we purchased several so that the wash room attendant could supply them to the passengers who wish to shave or otherwise have use for the water in the bowl. We appreciate Mr. Eberhardt's compliment "having a spotless rest room." We feel that since his criticsm was unjustified, we accept the compliment.

For his information and for other readers' information, permit me to advise that the airlines do not contribute one penny of the cost for the upkeep of rest rooms or the attendants. The airport pays the salaries of the maids and other cleaning attendants. . .

I have been a reader and subscriber of *American Aviation* for quite some time and I am a little surprised that the editor would permit this unjustified criticsm, without knowing the facts, to be published under a heading "Clip Joints." Since this letter was written by an airline employee against an airport, and since your magazine advocates closer cooperation between airports and airlines, it would be interesting to know whether this is the proper procedure to be used . . . to bring the airports and airlines closer together . . .

The world today has too many people who are eager to find fault with others. How much nicer it would have been for Mr. Eberhardt to find out the facts and then having the facts write a letter stating our rest rooms were spotless and the attendant, wanting to have a clean bowl for the next man, which incidently could have been a TWA passenger, cleaned it so quickly that it was ready before Mr. Eberhardt put on his shirt.

I can truly say that Mr. Eberhardt's criticism was the first received by me, with reference to the men's wash room. We have received many compliments from many airline officials, including TWA on the appearance of our wash rooms.

We welcome suggestions from the passengers for improvement of our airport. We realize we are not perfect in our operation and service, but we are striving for that goal. I believe other airport managers are trying to better their airports and all of us would welcome constructive criticism.

I know we are a good airport when a stopper is the only complaint.

We are going to try hard to please all passengers, thus increasing the airline traffic, thus adding more planes, thus promoting Mr. Eberhardt from First Officer to Captain. For this favor he should at least find out the facts, instead of publishing untrue facts . . .

ROBERT M. ISENBERG
Airport Manager
Greater Cincinnati Airport
Cincinnati, Ohio

(Editor's Note: Mr. Isenberg's explanation of the wash room situation at Cincinnati which prompted Reader Eberhardt's previous letter is appreciated. The words, "Clip Joints," referred to by Mr. Isenberg were those of Reader Eberhardt. Purpose of the "Letters" department is to allow our readers an opportunity to air their views freely. Obviously, views appearing therein do not necessarily reflect the opinions of this publication. Our thanks to Mr. Isenberg for setting the record straight.)

To the Editor:

We protest your inference and heading of Elmer Eberhardt's inaccurate and untrue criticism of Greater Cincinnati Airport in Letters *American Aviation* October 1. Airport received the National Aeronautic Association good operating practice certificate recently. Presented by Mr. Louis Leverone, president, in person.

NORTHERN KENTUCKY CHAPTER
National Aeronautics Association
Cincinnati, Ohio

Pit & Underwing Servicing

To the Editor:

Many of our engineers have commented favorably on the article which you wrote in *American Aviation*, August 15 issue, entitled "Pit and Underwing Servicing Proved Successful by NWA," and we want to take this opportunity to thank you for the good article which you prepared.

Northwest Airlines believes that we have improved our service, and that pit facilities promote economical and efficient service. Your article should assist the other airlines in considering this valuable method of servicing, and we anticipate that additional similar facilities will be installed by others interested.

PAUL L. THOMAS
Manager
Plant & Equipment Engineering
Northwest Airlines
St. Paul, Minn.

Lightplane Profit Margin

To the Editor:

I have just read your interesting editorial in "American Aviation" dated July 1, 1949.

As everybody seems to know and enjoy emphasizing, something "is wrong with the state of private flying." In view of the general condition existing in all parts of the country, I cannot agree that the operator is responsible for the lack of flying.

I will unqualifiedly add one thing that is definitely wrong on the operator's end of the line which nobody takes into account. Have you ever heard of a business which could efficiently operate a business on a profit or "net" of only 20%, the latter a discount generally allowed an operator by producers of airplanes and allied products? A grocery store dependent on turn-

ing over an item many times will have more than a 20% mark-up; this in contrast to the slow turn-over and volume in the aviation business—or lack of volume.

Yes! Something is wrong in the private airplane industry! If and when an operator makes a sale, his profit will have to be more than 20% for him to stay in business. This can partly be alleviated by doing away with the middle man in the case of sales of airplanes. The distributor, insofar as I am able to ascertain, is of no value whatsoever in the airplane industry. Airplanes should go from the factory to the dealer to the purchaser, eliminating "distributor" profit.

JACK KING
King School of Aviation
Municipal Airport
Columbus, O.

Runway Extension

To the Editor:

In Airport Notes in the October 1 issue there is the following note: "The North-south runway at Hensley Field, Grand Prairie, Tex., is to be extended from 5200 ft. to 7500 ft., with the Navy paying for the work." First, it is true that Hensley Field is near Grand Prairie, although it is in the city limits of Dallas.

Secondly the City of Dallas is providing 256,000 of its hard earned, scarce cash towards the total cost of the extension of this runway. The Navy is spending something in excess of $167,000.

WILLIAM A. WARE
Aviation Director
Dallas Chamber of Commerce
Dallas, Tex.

Weather Protection Wanted

To the Editor:

The other night as I watched the passengers disembark from a Convair in a downpour, I could not help but wonder what the use is to build these fast airplanes that fly above the weather if when they get down on the ground no provision is made for adverse weather conditions.

Why, in the name of progress, does not someone build a collapsible, sectional shelter on rollers which could be put up over the steps of the plane (using as many units as necessary, depending on the distance the plane is from the building) forming a covered walkway? On second thought —why not manufacture the steps with a canvas roof?

MARY GROSSMAN
Argonaut Travel Agency
Havana, Cuba

(Editor's Note: Thanks to the wife of Jerry Grossman, for many years manager of Compania Cubana de Aviacion, S.A., for comments on a problem that has long been a subject of much discussion but little action in the air transport industry.)

Little Operators & CAB

To the Editor:

My attention has been called to an editorial in the September 1, 1949, issue of *American Aviation* entitled "No Poor Men Wanted." The editorial refers to the exhibits filed by Pioneer Air Lines in its certificate renewal case, which exhibits comprised three volumes totaling 904 pages and weighing 22½ pounds. Referring to these exhibits, the editorial states that a so-called "little operator" hasn't a chance in Civil Aeronautics Board cases because of the cost of participation and indicates that the Board has been negligent in not doing anything to remedy such situation.

This office participated in the Pioneer renewal case as counsel for Continental Air Lines and due to the weight of the Pioneer exhibits, paid excess baggage from Washington to Austin, Texas, and return in connection with the hearing. It should be pointed out, however, that the relevancy of much of the material contained in the exhibits was questioned by all counsel at the proceeding and there is absolutely no doubt but what the material was far in excess of that which would have been required for proper disposition of the case.

Due to the fact that the proceeding is now pending before the Board and that I appeared as counsel, I do not wish to further discuss the admissibility of the material presented by Pioneer. However, I think the following comparison will aptly prove my point and show conclusively that the Board was not in any way responsible for the voluminous nature of Pioneer's exhibits. Incidentally, Pioneer used the size and weight of its exhibits throughout the area it serves for advertising purposes. I refer to pictures released by Pioneer showing volumes of their exhibits stacked alongside one of their hostesses.

And now for the comparison, the Southwest Airways' renewal proceeding involved the same issues as those present in the Pioneer case, and was, of course, of the same relative importance to Southwest as the other case was to Pioneer. The Southwest exhibits including all material required by public counsel—totaled less than fifty pages, including index and maps, and weighed 10¼ ounces.

Just thought you would be interested in learning just how much the individual applicant or carrier may control the extent of its participation in a case before the Civil Aeronautics Board.

C. EDWARD LEASURE
Washington, D. C.

Marathon's Sales

To the Editor:

Mr. Perreault's references in your issue of the 1st October to the sales potentialities of the Marathon airlines are inaccurate.

In fact, there is every indication of an excellent market for this new British aircraft. This he would have learned had he got into touch with the manufacturers while he was in England.

As for Mr. Perreault's remark that "the one order which did exist when the aircraft was being constructed by Miles failed to materialize with the change of the manufacturers," the facts are that, when Handley Page (Reading) Ltd. undertook the Marathon's manufacture, the contract which existed previously with Miles Aircraft was assigned to our Reading subsidiary.

Subsequently, complete tooling-up for Marathon construction has been put in hand and production is well underway. Already, aircraft are coming off the line and the first was exhibited at the recent S.B.A.C. Flying Display where, no doubt, Mr. Perreault saw it. Deliveries commence shortly to those operators, in Britain and abroad, who have placed orders for them.

One comment which has been heard, following upon the publication of Mr. Perreault's remarks, is that these may be a matter of sour grapes on his part, it being understook that no American tributary-line aircraft, equivalent to the Marathon, exists at the present time.

S. A. H. SCUFFHAM
Press and Publicity Officer
Handley Page Limited

(Editor's Note: No sour grapes intended. We did check with your "representatives" at the SBAC show but apparently they kept their potential customers as secret as you have in this letter. We will be glad to carry news of these orders and particularly of the first deliveries.)

1948 Travel Safest. Travel in the U. S. was safer last year than at any time in the last decade, according to the National Safety Council. Combined death rate for passenger automobiles, taxis, buses, trains, and airline transports was 1.8 deaths per 100 million passenger miles. Railroad death rate was 0.13, buses 0.18, airplanes 1.3, passenger autos and taxis 2.1.

Senate Airline Hearings. The first two parts of the hearings of the Senate Airline Investigation have been received from the Public Printer by the Senate Interstate and Foreign Commerce Committee and copies may be obtained by writing the committee, Senate Office Building, Washington, D. C.

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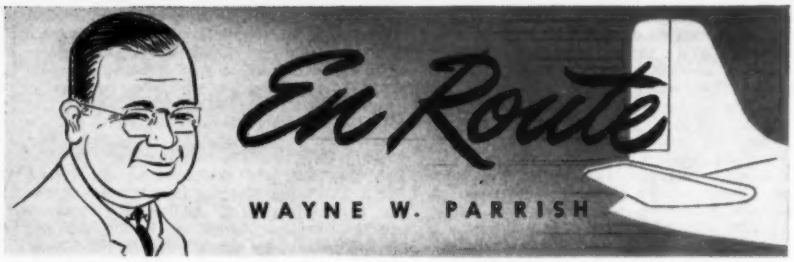


IT STARTS. I'm not sure just where it all started. It may have been at the Columbus Hotel in Miami on the evening before we took off. It may have been over a scotch and soda at the Condado Beach Hotel in San Juan. It might even have been at the Grande Hotel in Belem at the mouth of the Amazon in Brazil.

I do know that it was on one of the first three evenings of **Eddie Rickenbacker's** month-long tour of South America in August. I know it was warm, I know we were relaxed, and I'm reasonably sure that we were refreshing ourselves. My companion was **Bert Holloway,** sales development manager of Lockheed Aircraft Corp., with whom I bunked during the trip.

I remember this, too. As usual my tongue was wagging and I believe I was, recalling some interesting bit of native life about the tropics which I had picked up on an earlier trip. Holloway, as usual, was a good listener. Finally he was able to get in a word edgewise.

"You ought to be putting that material into a column in your magazine," he said. "You travel all over hell and back and you see and do things the average guy always wishes he could get the time and means to do. I've had it on my mind to tell you for a long time. Make notes as you go along. Write in a personalized style."

That's how it all started. I was a little cool to the idea at first, since I already have more than enough to do. I was also a little confused about what to write about. Holloway is a persistent gent once he gets hold of an objective, and after we had batted the idea about for several days, a personal page began to shape up.

Then came the problem of a title. "Strictly Personal" and that type of column tag was overworked. Again Bert had the answer. "You're always traveling," he said. "Why not just call it 'En Route'?"

That was it.

And here it is.

If it turns out to be a flop, write your complaints to Holloway and he, in turn, will doubtless blame everything on the tropics somewhere between Miami and Belem, Brazil. Lots of things are blamed on the tropics.

* * * *

MADAME ZESE. While we're on the subject of the tropics let me bring you up to date on that city of Belem. Nobody would ever call it paradise, but it has its importance as a big port linking ocean traffic and the large amount of river traffic which goes some thousands of miles up the Amazon and its many tributaries far up the Amazon basin.

Being two degrees off the equator, it can be hot but it isn't as uncomfortably hot as Washington can be in the summer. For many years before the war it was an overnight stopping point for Pan American passengers. During the war many thousands of pilots and crew members stopped off there and the U. S. contributed funds for expanding the airport into a major field.

There is just one hotel of any consequence and until PAA fixed it up, it wasn't even of any consequence. It's called the Grande but every Latin American town and city has a Grande. Today PAA stops merely to refuel at Belem and Panair do Brasil has taken over maintenance of the field and carries on the PAA tradition at the Grande. Before PAA cut the strings, however, it renovated the hotel very nicely and built a cocktail lounge which ranks with the finest in the world as far as comfort and decorations are concerned.

But the real reason for this review of Belem is to advise all those who ever have stopped here in years past that **Madame Zese** is doing fine. Madame Zese runs an establishment several blocks from the hotel and while the local young bloods resent the intrusion of the Norte Americanos, it has been customary for all visitors to Belem to drop around and drink some beer or imbibe a daiquiri at Madame Zese's.

Everything including the lighted blue sign on the street side is just the same except that a new place has opened a few doors away and seems to be attracting more trade. This was shocking news to anyone who held a sentimental attachment to Madame Zese's, but in due course the real news came out. The new place is also owned by Madame Zese. Probably the war provided the means with which to expand her enterprise and there's nothing like owning your own competition.

The phonographs with their ancient scratchy records still wail out into the hot humid night. The local lads still have their disgusted looks at the intruders from the north who drop in only to buy a beer and laugh and joke at what is, to them, a rather permanent and accepted institution. The girls in their pathetic evening dresses and fading youthfulness look bored. Belem's "night life" always sounds exciting in advance, always turns out to be drab and doleful. The visitors fly on early in the morning but next night the screeching records echo up and down the small dirty street as they have done night after night for who knows how many years. Madam Zese and Belem are still there. And as **Don Arturo Godfrey** says, in cleaned-up language, "Let 'em stay there."

There is a story afloat in the Belem area that some years ago as a transport plane was nearing Belem from the north, a woman passenger asked the stewardess for the name of the best place to stay in the city. The stewardess went into the cockpit to ask the captain. Either the captain didn't realize the stewardess was new on the job, or didn't care, but in any event he cracked back, "Tell her to go to Madame Zese's." The story goes that the passenger got a cab and actually went to Madame Zese's. The cab driver probably thought she was a new inmate but in any event there were plenty of repercussions. I don't know whether this story is true or not, but it could have happened. Maybe somebody will provide me with the true facts—minus crew names, of course.

* * * * *

WORLD CLOCK. One of the cleverest gadgets for airline passengers we've ever seen is The World Clock made up by Esso Aviation Products. We picked one out of the seat pocket on Scandinavian Airlines System recently. It's a chart with a dial to move about to determine the time in any part of the world. What interested us especially is the number of countries whose times are not full hours before or after Greenwich Mean Time. There are sixteen of these listed on the chart. Venezuela and Newfoundland are the best known to U. S. travelers and they are each 30 minutes away from the full hour. Most unusual time confusion is in the neighboring countries of British Guiana and Dutch Guiana on the north coast of South America. The former is 15 minutes and the latter 20 minutes off the full hour from G.M.T., while the Tonga Islands, wherever they are, are 19 minutes away from the full hour before or after G.M.T. Probably every international pilot would consider it a great benefit if some international organization would bring about world uniformity based on G.M.T. In any event, Esso has provided trans-Atlantic passengers something useful with which to while away the hours en route.

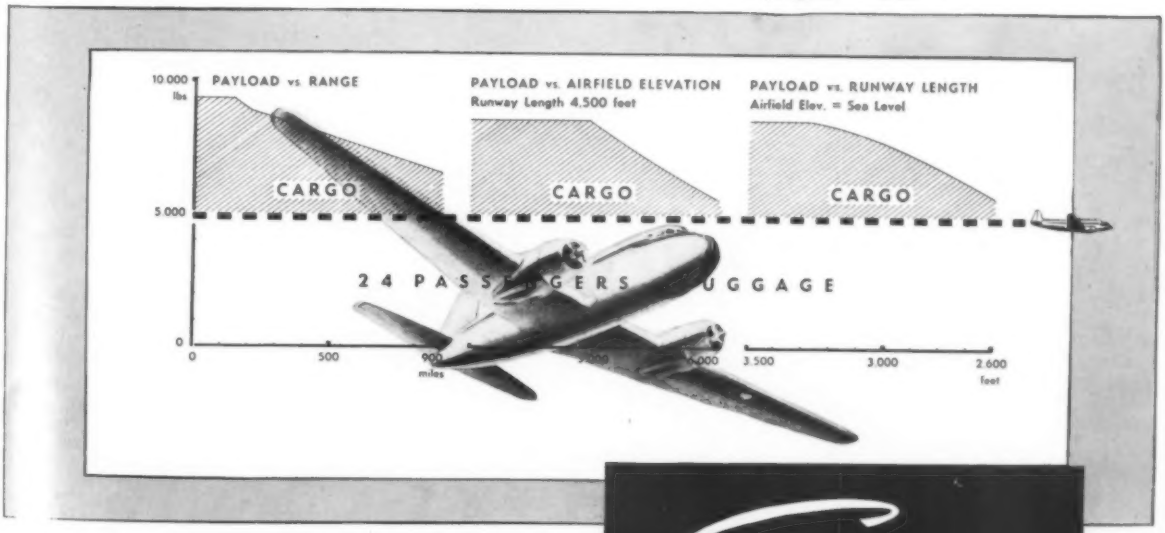
* * * * *

MAIL & CALLS. In the correspondence: A note from **Johnny Graves,** for many years with TWA and one of the best-known traffic and sales men in the business, now retired and living at Jorette Acres, Route 4, Rogers, Arkansas. How are you, Johnny, miss seeing you at airline gatherings . . . and another ex-TWA man is heard from. **Theon Wright,** who used to be TWA's director of public relations, is now with **Harry Bruno's** public relations firm in New York . . . **Charlie Short,** who is setting some sort of record as manager of Tulsa's big airport, sends in a clipping from *The Tulsa Tribue* writing up and picturing Charlie's big collection of autographed photos of aviation's great and near-great . . . And a note from **Edward Dreier** telling us that at Blaney Park Resort in Michigan private flyers can fly into the port and walk only 50 yards to their cottage. Transients are sent to the inn for a cup of coffee and a sandwich *on the house* while their airplanes are being refueled and serviced. There's a 2350-foot runway and everything in the way of resort facilities. Sounds good.

THE UNSEEN PASSENGER OFFERS HIS SEAT

"The unseen passenger" is a common occurrence on most transport planes. With due consideration to the take-off weight it is not always possible to carry the full complement of passengers, although empty seats are available in the plane.

"The unseen passenger" does not, however, appear on the Scandia. Under practically all conditions this plane can take the full number of passengers with luggage — in addition to a paying freight.



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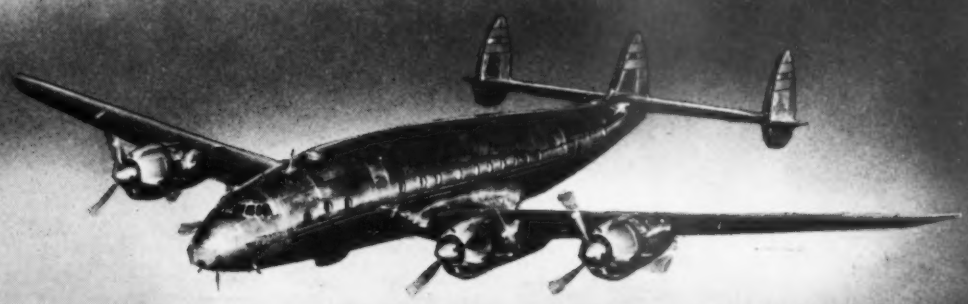

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